AN ASSESSMENT OF AGRICULTURAL-FORESTRY LAND USE CHANGES

By

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Bachelor of Science

Oklahoma State University

Stillwater, Oklahoma

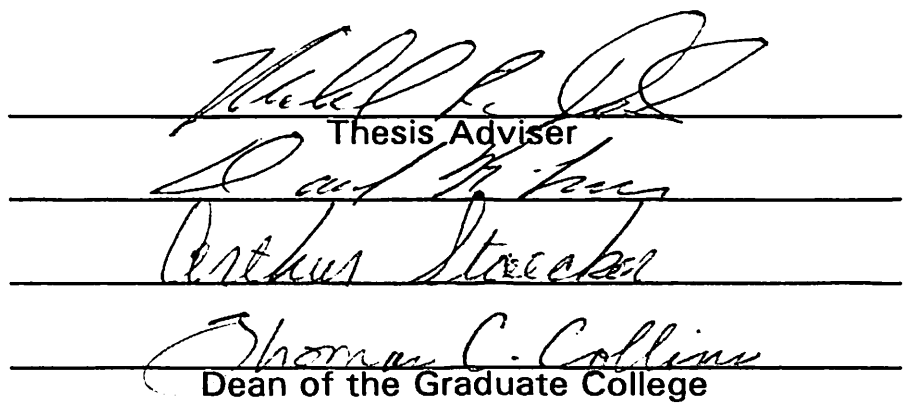
1991

Submitted to the Faculty of the
Graduate College of
Oklahoma State University
in partial fulfillment of
the requirements of
the Degree of
MASTER OF SCIENCE
July, 1993

AN ASSESSMENT OF AGRICULTURAL-FORESTRY

LAND USE CHANGES

Thesis Approved:



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ACKNOWLEDGEMENTS

I wish to express appreciation to Dr. Mike Dicks for his advice and assistance throughout my graduate program. My appreciation also goes to Dr. David Lewis and Dr. Arthur Stoecker for serving on my graduate committee.

Many thanks to Dr. Robert J. Moulton and Dr. Ralph Alig of the USDA Forest Service for their assistance in this research. Also, thanks goes to the staff of the USDA Forest Service, Southern Forest Experiment Station, Forestry Sciences Lab, in Starkville, Mississippi.

The most important component of my graduate studies has been the friendships that I have made. Thanks goes to Bob, Lance, and Bryan who shared the joys and trials of graduate school with me.

I greatly appreciate the support that my parents, Delmer and Vonda Mills, and my family have given me throughout my academic career. I extend a very special thank you to my wife, Stephanie. Her unwavering encouragement, support, and patience helped make this academic endeavor a success.

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CHAPTER I

OVERVIEW

Introduction

Land use changes between forestry and agriculture occurred throughout the 1800s and 1900s. Previous studies addressed social, economic, and political factors associated with aggregate land use changes in the United States (Alig, 1986; Alig & Healy, 1986; Alig et al., 1988; Dicks et al., 1990). However, productivity changes in timber and crop production associated with land use changes have not been addressed. Identification of historic land use changes, determination of the impact of these land use changes on timber and crop productivity and identification of the factors influencing these land use changes are important steps for projecting the future productive capacity of the agriculture and forestry sectors.

Oklahoma and Mississippi were selected as a sample area for developing methods for assessing land use shifts and the associated productivity changes. Oklahoma is on the parameter of the southern United States forest, while Mississippi is located in the interior of the southern

forest. The economic impacts of the land use shifts were estimated for the regional economies.

Historical Overview of Land Use Changes in the United States

Since colonial times, agriculture and forestry have competed as land uses. As population grew, forest area in the United States declined and agriculture area increased. Massive clearing of forest land for agriculture began early in the 1800s and continued intensively into the twentieth century (Clawson, 1981).

Agriculture was the primary force behind economic growth and land settlement in the United States. The first federal land use policies, The Land Ordinances of 1785 & 1787, promoted agricultural expansion and settlement of land. For almost 150 years, federal policies supported and encouraged the use of agriculture for economic growth, with little consideration for the environmental effects of the agricultural expansion (Dicks et al., 1990).

During this period of agricultural expansion, many forests were destroyed and soil was exposed to the erosive effects of wind and rain. Agricultural producers determined the productivity of land by trial and error. Consequently, some land was cleared, farmed for a short time, and then abandoned.

The depression of the 1920s and 1930s slowed the agricultural expansion. Large areas of cropland and pasture were idled or abandoned and forest area began to increase through reversion of these lands to forests, primarily by natural regeneration (Boyce and Knight, 1979). During this period, the movement to promote conservation of natural resources expanded. In the 1930s, the federal government established agricultural policies that influenced farmers' allocation of resources. The first chief of the Soil Conservation Service, Hugh Bennett a professional forester, urged Congress to promote conservation and reestablish forest and grasslands to control soil erosion. The Soil Conservation and Domestic Allotment Act of 1936 provided funds to assist farmers in adopting conservation practices. The Agriculture Adjustment Act of 1933, the first permanent farm legislation, established agriculture price supports and acreage reduction mechanisms. However, the Agriculture Adjustment Act of 1933 tended to encourage basic commodity production by reducing financial risks to the farmer. Short-term policy goals needed to maintain the soil and support economic growth through agricultural expansion did not suit the long-term nature of forestry. "Agro-forestry, the integration of tree and crop production activities, was not considered as a basic cropping alternative (Dicks et al., 1990)."

World War II sparked an agricultural boom. An enormous export demand for United States agricultural products resulted in rapid changes in technology and a renewed expansion of cropland. United States cropland

acreage continued to increase until it peaked at over 395 million acres in the early 1950s (Dicks et al., 1990). The federal agricultural policy objectives of the 1930s continued until the mid-1950s. The Agriculture Act of 1956 established the Soil Bank Programs (land diversion programs) and set-aside acreage "to protect and increase farm income, to protect the national soil, water and forest and wildlife resources from waste and depletion, . . . and to provide for the conservation of such resources and an adequate, balanced, and orderly flow of such agricultural commodities in interstate and foreign commerce (Cochran & Ryan, 1976)." Two programs, Acreage Reserve and Conservation Reserve, were primary elements of the Agriculture Act of 1956. In 1957 and 1958, the Acreage Reserve Program set aside 21 million acres, while the Conservation Reserve (1957 to 1972) idled almost 29 million acres by the early 1960s (Dicks et al., 1990). Approximately 2.2 million acres were planted to trees under the Soil Bank Programs (Moulton & Dicks, 1987). Kurtz et al. (1980) found that 10 to 15 years after planting, over 90 percent of the acreage planted to trees under the Agricultural Conservation Program was still in trees. Although the Soil Bank programs had some conservation benefits, "the primary purpose of these programs was to reduce the acreage in production of basic commodities that expanded during the war years (Dicks et al., 1990)." Even with incentives to reforest, forest land again declined in 1952 and decreased until 1987 (Table 1).

TABLE 1

FOREST AREA FOR THE UNITED STATES AND SOUTH

Year	United States (000 ac)	South	Percent of U.S.
1952	508,860	214,823	42.22
1962	515,125	220,093	42.73
1970	504,054	214,777	42.61
1977	491,142	209,899	42.74
1987	483,318	207,181	42.87

Source: Alig et al., 1990

TABLE 2

UNITED STATES CROPLAND AND PASTURELAND AREA

Year	Total Cropland (000 ac)	Permanent Pasture (000 ac)
1929	522,421	----
1934	513,902	----
1939	530,128	----
1944	408,506	481,046
1949	408,506	618,696
1954	465,327	459,879
1959	457,483	464,053
1964	443,815	487,352
1969	471,704	449,045
1974	464,702	595,290
1978	470,480	584,302
1982	468,883	594,253
1987	464,001	591,113

Source: U.S. Census Bureau

Worldwide crop shortages and inflation of the early 1970s caused a rapid expansion of United States agricultural export markets. United States agricultural policy again stressed crop production. Some southern forest land was again cleared for soybean and other crop production because of the boom in agriculture, which resulted in net gains in cropland area (Alig et al., 1990). Agricultural export demand declined in the late 1970s, but cropland acreage and crop productivity continued to increase until 1981 (Table 2).

During the 1980s conservationists increased pressure for a more environmentally sound agricultural sector. The United States Department of Agriculture (USDA) received criticism for having conservation programs that provided cost-share assistance to increase cropland productivity while using price and income support programs to induce farmers to reduce acreage used to produce commodities in surplus. Conflicting goals of the USDA programs, abundant use of agrichemicals, and persistent soil erosion led conservationists to increase pressure on the United States Congress for a more conservation-oriented agricultural policy. Rather than controlling agricultural commodity output, federal farm policy began to focus on management of supply components (resources) (Dicks et al., 1990). The Conservation Title of the Food Security Act of 1985 linked farm resource use to agricultural commodity programs. Forestry activities were designed to help accomplish the conservation objectives of the Food Security Act of 1985. Programs of the Conservation Title of the Food Security Act of

1985, including the Conservation Reserve Program, Conservation Compliance, Sodbuster and Swampbuster were directly or indirectly linked to forest land and/or forestry activities.

Moulton and Dicks (1987) suggested that the combined effect of several programs in the Food Security Act of 1985 could result in a net increase of approximately 16 million acres of forest land between 1986 and 1995. Sodbuster and Swampbuster were expected to prevent the conversion of 7.4 million forest land acres into cropland while Conservation Compliance would reduce the profitability of crop production relative to timber production providing incentives for establishment of trees on highly erodible croplands.

The Conservation Reserve Program (CRP) of the Food Security Act of 1985 is the largest land retirement and tree planting program in United States history. Through the latest sign-up period (June, 1992) almost 36 million acres of environmentally sensitive (erodible) cropland had been retired from production with about 2.3 million acres planted to trees. The CRP promoted tree planting to reduce soil erosion, increase wildlife habitat and increase future commercial timber supply. However, an important aspect of tree planting is that land planted in trees is likely to remain out of crop production (Dicks et al., 1990).

The Food, Agriculture, Conservation, and Trade Act of 1990 (FACTA90) amends the Conservation Compliance, Sodbuster and Swampbuster provisions of the Food Security Act of 1985 and redirects and

extends the Conservation Reserve Program (USDA ERS, 1991). FACTA90 contains Title XII--State and Private Forestry--which is the first title devoted to forestry in a comprehensive agricultural act. The Forest Stewardship Act (within Title XII) stresses conservation, management and planting of nonindustrial private forests.

Forests have competed historically with agriculture for United States land base. Often forest area has been reduced to expand agricultural area. Agricultural land has contracted and expanded because of exogenous events while federal policies promoted both expansion and contraction of agricultural output. Recent federal policies have advocated the contraction of agricultural output to reduce government outlays, increase farm incomes and promote conservation. Information about land use changes and the associated changes in productivity will be necessary to project the future productive capacity of the agricultural and forestry sectors.

Factors Affecting Land Use

Economic, social, and political variables associated with land use changes have been addressed by numerous studies. A review of previous studies found that several variables (agricultural demand and income from agricultural use; population growth and personal income; ownership characteristics; and government programs) are important factors that contribute to land use changes and are important to determine potential changes in productivity associated with land use changes.

Moulton (1983) noted that privately owned forests have historically remained only where the land has not been needed for more productive uses, such as agriculture and urban development. Moulton asserts that by the mid-1960s and early 1970s land use began to change in many areas of the U.S. because of two factors: (1) increasing prices for timber, especially softwood timber species in the South, and (2) the emergence of a new class of buyers seeking forest land for recreation uses.

In 1965 wooded forty acre tracts without water frontage could be purchased in either the Missouri Ozarks or Northern Minnesota for an average of 20 dollars per acre. By 1981, the average acreage prices for the same lands had risen to over 200 dollars in these locations (Moulton, 1983). These price increases were stimulated by recreation demand, especially for smaller tracts. In Northern Minnesota, thirty-two percent of market sales of woodlands in the 40 to 80 acre size class were purchased for personal recreation, while six percent were purchased for timber production. In contrast, timber production was given as the primary reason for purchase of 17 percent of wooded tracts in the 81 to 160 acre class, and 50 percent of the tracts of 161 acres and larger. No sales of wooded tracts for conversion to agriculture were observed by Moulton in Northern Minnesota.

The Moulton study also noted that in the Missouri Ozarks, 30 percent of woodland tracts 40 acres and larger were purchased for recreation during the 1965-1982 period. Timber buyers acquired 21 percent of tracts 161 acres and larger, as compare to seven percent of 40-80 acre tracts.

Conversion to agriculture was given as the reason for purchase of five percent of the Missouri Ozarks sales. These for-agriculture purchases were distributed over all tract size classes.

Market prices for wooded tracts in Mississippi increased from about $100 per acre in 1965 to an average of 750 dollars per acre in 1981, and showed a strong statistical relationship to pine stumpage prices for tracts as small as 20 acres (Moulton, 1983). Good timberland also attracted timber buyers in other areas but principally for larger acreage sales. In Missouri, recreation buyers liked larger trees for aesthetic reasons and would usually outbid timber buyers for smaller tracts.

Healy (1985) suggested that demand for agricultural land is an influential variable affecting land use changes in the south. Exogenous events (e.g. world-wide drought) and federal agricultural policy have resulted in the expansion and contraction of the agricultural land base. The increase in demand for United States agricultural exports in the 1940s and early 1970s (caused by World War II and world crop shortages, respectively) resulted in expansion of agricultural land. In contrast, during the 1920s and 1930s a general economic depression caused abandonment of farmland in the South and East, the majority of which reverted naturally to forest.

The Nation's timberland declined by five percent to 483 million acres between 1952 and 1987 (Alig et al., 1990). During the 1960s hundreds of thousands of acres of bottomland hardwood forest in the Mississippi Delta region were converted to cropland (Healy, 1985). Knight (1973) estimated

that over 950,000 acres of Georgia's commercial forest land were diverted to agricultural uses (mostly pastureland) between 1961 and 1972. The Conversion for Conservation study (USDA OBPA, 1983) prepared by the USDA interagency team, estimated that up to 17 million acres of marginal cropland in nine southern states would provide higher economic returns in trees than in their present use. A southern study of both cropland and pastureland by the USDA Forest Service (1988) found that 22 million acres would earn higher returns in pine plantations. Alig et al. (1986) suggest the reduction in southern timberland may in part reflect an upward trend in relative incomes obtained from alternative uses (crops). However, Alig et al. (1988) were unable to demonstrate that relative income from forestry and agriculture enterprises affected land use shifts.

Because nonindustrial private forest owners control ninety percent (122 million acres) of southern timberland, social factors that affect land owners' behavior and land use can be important in determining the long-term stability and productivity of the forestry and agricultural sectors. Previous studies have analyzed population growth, personal income, and landowner characteristics as factors affecting land use.

Increased population and real personal income have been linked to urbanization of forested areas (Alig & Healy, 1987). Urban expansion may remove forest land by clearing for urban build-up or by consuming agricultural land that could be replaced from forest land. These factors may also have an effect on the productive capacity of land involved in timber and

agricultural production. An analysis by Healy (1984) suggested that higher quality rather than lower quality forest land has been converted to alternative uses (both agriculture and urban).

Since the 1930s, federal agricultural policy has attempted to induce producers to allocate land resources among alternative activities by providing incentives. An examination by Brooks (1985) of nonindustrial private forest owners' reforestation behavior indicated few owners reforest understocked or harvested forest land, in spite of potential high returns to land. This analysis indicated that southern nonindustrial private forest owners responded to government programs that provided direct payments to offset reforestation expenses during a period from 1959 to 1979. In a 1959 analysis (Webster & Stoltenberg, 1959), forest land acreage owned and assessed value of property were found to have positive impacts on landowner responses to government forestry programs. Haymond (1988) concluded that "because farmers earn their living from products of their land, they might be expected to place a higher value on timber production and economic factors than business people, who derive their income primarily from other sources." Brinkley (1981) also concluded that "farmers are more likely to harvest timber than are non-farmers." This reasoning would suggest that farmers respond more to government incentive programs for forestry than non-farmers.

Alig et al. (1988) suggested that government conservation programs caused agricultural land to be converted to forest land in the South Central

United States. Government programs that reduce cropland acreage were associated with an increase in Georgia's forest land acreage in 1980 (White & Fleming, 1980). With federal agricultural policy shifting to conservation goals, conservation programs may have considerable consequences on the productive capacity of forest and agricultural land. The Food Security Act of 1985 and the recent Food, Agriculture, Conservation, and Trade Act of 1990 contain conservation programs that have affected and will affect land resource uses.

The United States Southern Forest

The United States Southern Forest contains approximately 40 percent of the nation's timberland area. This area is located in 12 states: Virginia, North Carolina, South Carolina, Georgia, and Florida in the Southeast Region and Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas in the South Central Region. The South contains over 182 million acres of timberland or 55 percent of the total land area of this region. Nonindustrial private forest owners and the forest industry control ninety percent of the timberland in the South, while the remainder is publicly controlled (Table 3). Nonindustrial private forest owners (farmers and other individuals) control approximately 122 million acres of southern timberland. Southern farmers[1] control 39.7 million acres (21.79 percent) of southern

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[1]The USDA Forest Service defines a farmer as a "person who operates a farm, either doing the work himself or directly supervising the work."

timberland, while corporations and other individuals control 82.2 million acres or roughly 45 percent (USDA FS, 1988).

TABLE 3

SOUTHERN TIMBERLAND AREA BY FOREST OWNERSHIP, 1985

	Million Acres	Percent of Total
Public	18.0	9.88
Forest Industry	42.3	23.22
Private (Non-Industrial)		
Farmer	39.7	21.79
Corporate	16.2	8.89
Other individual	66.0	36.22
TOTAL	182.2	100.00

Source: USDA FS, 1988

For all southern states, harvested timber ranked among the top three crops in terms of value of production. In 1984, the value of southern timber products was greater than the value of all agricultural crops. In 1982, the South's forest industry paid $8.5 billion in wages and employed approximately 557,00 people. Forest industry employs more people than other manufacturing industries in the South. Aggregate wages and salaries of the southern forest industry were larger than other major manufacturing industries (USDA FS, 1988).

Oklahoma Forest Land

Forest land makes up approximately 7.5 million acres or 17 percent of the total land area in Oklahoma (4.1 percent of the southern forest area). Timberland makes up about 5.4 million acres of Oklahoma forest area. Forest land is mostly confined to eastern counties in Oklahoma[2] which has a land area of 10.2 million acres. Approximately 52 percent of this land area is forest land. Eastern Oklahoma forests include about 70 percent of the state's forest land and 88 percent of the timberland in Oklahoma.

Nonindustrial private forest owners (farmers and other individuals) control approximately 3.6 million acres (69 percent) of forest land in eastern Oklahoma (Lewis and Goodier, 1990). Forest industry landowners control over one million acres while the National Forest and Other Public classes control 11 percent of the forest land in eastern Oklahoma (Table 4).

Timber products were valued at $63.6 million for eastern Oklahoma in 1984, and had the second highest value of production among all agricultural commodities. The eastern Oklahoma forest industry had a total payroll of $49.21 million in 1982 (Lewis and Goodier, 1990). The forest industry employs 3552 people, and makes up 18 percent of total manufacturing employment in eastern Oklahoma.

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[2]These counties are: Adair, Atoka, Bryan, Cherokee, Choctaw, Coal, Delaware, Haskell, Latimer, Le Flore, McCurtain, McIntosh Mayes, Muskogee, Ottawa, Pittsburg, Pushmataha, and Sequoyah.

TABLE 4

OKLAHOMA TIMBERLAND AREA BY
FOREST OWNERSHIP, 1986

	Acres (000)	Percent of Total
National Forest	258	5
Other Public	343	6
Forest Industry	105	20
(Non-Industrial) Private	3600	69
Total	5257	100

Source: Lewis and Goodier, 1990.

Mississippi Forest Land

Historically, forests have dominated the Mississippi land base. Mississippi forest land makes up approximately 17.0 million acres (56 percent) of the state's total land area, and roughly 9.3 percent of the southern forest area. Commercial timberland comprises all but 8,600 acres (which is reserved timberland) of Mississippi's forest land (Table 5). Nonindustrial private forest owners control the majority of Mississippi's timberland, about 12 million acres (69.8 percent). Forest industry landowners control approximately 3.2 million acres (18.8 percent) of Mississippi timberland, while the remainder, 1.9 million acres, is publicly controlled (Kelly and Sims, 1989).

The forest industry is a principal component in Mississippi's economy. In 1984, timber products ranked first in crop value of production with 593.0 million dollars of output. The forest industry paid an estimated 532.6 million dollars in wages and salaries, while employing about 37,200 employs in 1982 (USDA FS, 1988). Approximately 18 percent of the manufacturing employment in Mississippi is in the forestry industry.

TABLE 5

MISSISSIPPI TIMBERLAND AREA BY FOREST OWNERSHIP, 1987

	Acres (000)	Percent of Total
National Forest	1,212.1	7
Other Public	707.2	4
Forest Industry	3,197.3	19
(Non-Industrial) Private	11,865.0	70
Total	16,981.6	100

Source: Kelly and Sims, 1989

Timberland Productivity in the Southern United States

A large portion of southern forest land is in high timber productivity classes compared to other regions of the United States (USDA FS, 1989).

Approximately 40 percent of the available forest land in the South is classified as having above average productivity (Table 6). About 12 percent (25 million acres) of the available forest land in the South is capable of producing over 120 cubic feet of wood per acre per year, while another 29 percent (59 million acres) is classified in the 85 to 120 cubic feet of wood per acre per year category (USDA FS, 1989). The South Central Region contains about 70 percent (59 million acres) of the South's most productive timberland, while the Southeast Region contains approximately 54 percent (62 million acres) of the moderately productive timberland. The majority of the lower productivity timberland (0-20 cubic feet of wood) is located in the South Central Region (USDA FS, 1989).

TABLE 6

FOREST LAND AREA (MILLION ACRES) OF THE SOUTHERN UNITED STATES BY PRODUCTIVITY CLASS, 1987

		cubic feet of wood				
Region	Total	120+	85-120	50-85	20-50	0-20
Southeast	87.7	3.5	21.4	49.4	12.3	1.1
South Central	115.7	21.2	37.6	38.7	13.5	4.7
Total	203.4	24.7	59.0	88.1	25.8	5.8
United States Total	731.4	57.3	114.7	194.6	138.7	226.1

Source: USDA FS, 1989

The USDA Forest Service (1989) reported that the potential yields defined by the productivity classes are generally unachieved in the South, and the difference between potential and realized productivity of the South's forest land appears to be increasing. The South's net annual growth of softwood has recently declined after a lengthy upward trend. Net annual estimated growth of softwood timber increased from 3.7 billion to 6.1 billion cubic feet between 1952 and 1976. Since 1976, the estimated growth of softwood timber has declined to 5.7 billion cubic feet in 1984. The majority of the decrease in net annual softwood growth occurred on privately owned timberland. In contrast, between 1976 and 1984 net annual softwood growth increased on forest industry timberland (USDA FS, 1988).

The USDA Forest Service (1988) estimated that over 81 million acres (45 percent) of southern timberland needed treatment to improve productivity. The South Central Region was estimated to have approximately 45 million acres (55 percent) of timberland needing treatment. Study results indicated that economic opportunities[3] exist to increase net annual timber growth on 70 million acres (38 percent) of the South's timberland. The southern study also found that nearly 22 million acres of marginal cropland and pastureland in the South would earn higher returns in pine plantations (USDA FS, 1988). The USDA Forest Service asserts that

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[3]Economic opportunities were defined as: "those that would yield four percent or more in constant dollars on investments."

these marginal lands, if planted to pine, would increase annual timber growth by approximately 2.1 billion cubic feet (a 37 percent increase).

Land use changes affect net annual growth of softwood by changing timberland area. Knight (1987) identified declines in timberland area as a factor affecting net annual growth of timber in the South. During the 1920s and 1930s, large areas of idle or abandoned cropland and pastureland reverted to forests, primarily by natural regeneration (Boyce and Knight, 1979). Between 1945 and 1965, natural and artificial establishment of pine trees on idled or abandoned cropland and pastureland offset landowners' failure to regenerate timberland after harvesting (Knight, 1987). During the 1970s, exogenous events (e.g. expanding agricultural export markets) caused an expansion of cropland area and reduced timberland area in the South. Pine regeneration on idle or abandoned cropland ceased to be a major contributor to annual growth of timber, while many nonindustrial private forest owners failed to replant harvested pine stands (Knight, 1987).

While the South contains large amounts of highly productive forest land, many acres are producing below potential, leaving the South's net annual growth of softwood timber declining since 1976. Changes in land use have reduced the acreage available for timber production, and in some cases, have led to declining land productivity in the South.

Objectives

The overall objective of this research was to develop a procedure to measure the effect of land use changes on productivity of forest land and agricultural land in the southern United States. Specific objectives for this research included:

(1) Identify specific changes in land use, and productivity for Oklahoma and Mississippi.

(2) Document the economic, political, and social conditions associated with the changes identified in (1) above.

(3) Determine the economic impacts of the results identified in (1) above.

(4) Determine the information, policies or other support which Federal, State, and/or local government could provide to induce land use changes that maintain or enhance both agricultural and forestry productivity and the implication of the actions on the resources of the area.

Hypotheses for the Study

The following hypotheses were formulated for this research:

(1) Significant shifts have occurred between forestry and agricultural land uses

(2) When land shifted from timber uses to agricultural or other uses, more productive timberland was cleared.

(3) Less productive land was converted to timberland.

Organization of the Study

Chapter II presents the procedures developed and used to determine land use changes, estimate net land use changes, and determine the productivity of land use changes. Descriptions of the data used in this research are also presented in Chapter II. The analytical results obtained by applying the procedures to the data are presented in Chapter III. An analysis of economic impacts of the land use shifts are addressed in Chapter IV. Chapter V concludes the study.

CHAPTER II

PROCEDURES

Land use data from the USDA Forest Service Forest Survey sample plots were the basis for the procedures in this chapter. By locating specific land use changes based on the Forest Survey sample plots on USDA Soil Conservation Service (SCS) County Soil Survey Maps, productivity measures for changed land use areas were estimated, and average productivity measures were determined from these productivity estimates for land use categories.

The hypotheses of the study were tested using Student's *t*-tests. The means of the timber reversion and land clearing categories were tested to determine if statistical significance land use shifts occurred. The average productivity measures of the land use categories were tested to determine the statistical significance of the associated productivity changes.

Data

The Southern Forest Experiment Station, Forest Inventory and Analysis Unit (SOFIA) of the USDA Forest Service inventories forest resources of the South Central Region (Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas). SOFIA inventories are

compiled into the Midsouth Forest Resource Database, which is available from the USDA Forest Service, Southern Forest Experiment Station, Forestry Sciences Lab, in Starkville, Mississippi.

The SOFIA maintains about 35,000 permanent sample plots across the South and inventories the states within the South Central Region about every 10 years (McWilliams and Kelly, 1986). The sample plots have been systematically spaced across the region on a 3- by 3-mile grid and theoretically each sample plot represents 5760 acres of land (May, 1989). Inventoried sample plots include forested plots during the current inventory or plots that were forested in the preceding inventory. The condition and distribution of South Central timberland is estimated from this sample. Two complete cycles of data for the midsouth states are currently stored in the Midsouth Forest Resource Database.

The SOFIA Unit inventories only the eighteen eastern counties in Oklahoma. These counties contain the majority of the timberland in Oklahoma (88 percent) (Lewis and Goodier, 1990). All eight-two counties in Mississippi are inventoried by the SOFIA Unit. The Midsouth Forest Resource Database contains information from the 1976 and 1986 inventories of Oklahoma and from the 1977 and 1987 inventories of Mississippi.

Determination of Land Use Change

Plot level data from the Midsouth Forest Resource Database provides

land use information. Current and past land use files provided data on the ground cover of each sample plot. The Midsouth Forest Resource Database classifies ground cover of the plots into land use categories. These categories include: timberland, woodland, cropland, improved pasture, idle farmland, and other farmland, urban & other uses (see Glossary).

Land use files contain the number of plots that changed land use in each inventoried county in Oklahoma and Mississippi. Land use data was available for two inventories: 1966 to 1976 and 1976 to 1986 for Oklahoma (Appendix A, Table 16 and Table 17), and for Mississippi, 1967 to 1977 and 1977 to 1987 (Appendix B, Table 42 and Table 43).

Net Land Use Change Estimation

The USDA FS derives estimates of the acreage devoted to various land uses at a county level by utilizing expansion factors (USDA FS, 1992). An expansion factor is the number of acres that each forested plot represents. The SOFIA unit calculates county expansion factors for forested plots using the Midsouth Forest Resource Database. The number of forested sample plots and total acres forested in a county are used to calculate that county's expansion factor.

Because only forested plots are inventoried by SOFIA, the number of non-forested plots is unavailable. Therefore, expansion factors for non-forested area are not available from the Midsouth Forest Resource Database and cannot be calculated using the SOFIA methods. The following

procedures were used to construct expansion factors for non-timber uses from the USDA FS Forest Survey sample plot data.

Example of Net Land Use Change Estimation

By estimating the net land use change for each county, and then totaling the county estimates, an estimate of net land use change for each state was determined for the respective time intervals.

Pushmataha County, Oklahoma

	1976	1986
Timberland (Acres)	706,800	710,100
Number of Timberland Plots	124	119
Expansion Factor	5,700	5,967
Land Clearings (# of Plots)	7 Timberland to 7 Non-Timber	
Reversions (# of Plots)	2 Non-Timber to 2 Timber	
To Timber:	2 * 5,967 = 11,934 acres	
From Timber:	7 * 5,700 = 39,900 acres	
Net Land Use Change	**(27,966) acres**	

Figure 1. Example of Net Land Use Change Estimation

In the above example (Figure 1), dividing acres of timberland by the number of timberland plots determines the expansion factor for the respective year. Analysis of data from the Midsouth Forest Resource Database determined land clearings and timber reversions. During this period (1976 to 1986), seven timberland plots (in 1976) were cleared for non-timber uses (in 1986) and two non-timber plots reverted to timberland. Multiplying the seven land clearing plots by the 1976 expansion factor reveals total acres converted to non-timber uses, while multiplying the two reverted plots by the 1986 expansion factor calculates acres reverted to timberland. By subtracting the land clearing acreage from the reverted acreage, the net land use changes for each county were estimated. The estimated reduction in timberland in Pushmataha County, Oklahoma was 27,966 acres between 1976 and 1986.

Plot Location

USDA FS policy prohibits the release of the exact location of sample plots. However, longitude and latitude measurements provided the general location or section of a changed plot. The Midsouth Forest Resource Database provides longitude and latitude measurements for each plot, but these longitude and latitude measurements must be converted into map coordinates (degrees and minutes) to locate the plots on maps.

Example of Converting Longitude and Latitude Measurements

The longitude and latitude measurements for the Midsouth Forest Resource Database (MFRD) were converted using the following procedure (Figure 2). In Step 1 the decimal digits from the Midsouth Forest Resource Database measurements were multiplied by 60 seconds to convert the measurements into minutes. The converted measurements were written in a degree-minutes format in Step 2.

Pushmataha County, Oklahoma

Plot #	MFRD Longitude	Converted Longitude	MFRD Latitude	Converted Latitude
100	95.42	95° 25.2′	34.53	34° 31.8′

1) .42 * 60 seconds = 25.2
2) 95 degrees 25.2 minutes

1) .53 * 60 seconds = 31.8
2) 34 degrees 31.8 minutes

Figure 2. Example of Converting Longitude and Latitude Measurements

Soil Type and Productivity Determination

Plots that changed land use during the last SOFIA inventories (1976-1986 for Oklahoma, 1977-1987 for Mississippi) were located on USDA Soil Conservation Service (SCS) County Soil Survey Maps, and soil types were determined. Because numerous soil types may occur within a section, the following guidelines were used in selecting a soil type for changed plots on the survey maps:

(1) The location of the intersection of longitude and latitude measurements was determined by its relative position to landmarks (e.g. road, creeks, mountains).

(2) If guideline (1) was unsuccessful, the predominant soil type in the section was selected.

(3) Ground cover shown on the map sheet was considered if guideline (2) was necessary. The date of the photograph must also be considered.

Examples of these productivity procedures are found in Mills et al. (1992).

Various tables in the county soil surveys provide soil type productivity measures (yields) for crops and pastures in the county, and site indices for timber productivity. Four crop yields were consistently listed in the county soil surveys for Oklahoma: wheat, grain sorghum, soybean, and cotton (Table 18). Mississippi county soil surveys consistently listed crop productivity measures for corn, soybean, oat, and cotton (Table 44). Wheat, grain sorghum, soybean, corn, and oat yields were measured in bushels per acre, while cotton yields were measured in pounds per acre. Coastal and improved bermuda grass yields were selected as a measure of

the productivity of improved pastures. Improved bermuda grass yields were selected for Oklahoma (Table 19), while coastal bermuda grass yields were selected for Mississippi (Table 45). Pasture yields are measured in animal-unit months (A.U.M.). Site indices were used as a measure of timber productivity in the county soil surveys. Selected Oklahoma site indices are for Shortleaf Pine, while the Mississippi site indices are for Loblolly Pine (Table 19 and Table 45).

Missing Productivity Data

For various reasons, USDA SCS County Soil Surveys were unavailable for fourteen counties in Mississippi. Some counties have not been surveyed by the USDA SCS, while others were conducted before 1940 and are out of print (Table 7). These counties comprise 15 percent (47 plots) of the total plots that changed land use in Mississippi during the 1977-1987 period (Table 8).

When possible, soil type productivity measures from earlier county soil surveys were updated to measurements listed in later county soil surveys. Only soil types that had productivity measures in two county soil surveys were updated by selecting the survey measurement from the latter year. Some soil types had no entries in the soil survey tables because of the unsuitability of the soil for some land uses.

TABLE 7

UNAVAILABLE USDA SCS COUNTY SOIL SURVEYS FOR MISSISSIPPI AND REASONS

County	Reason
Attala County	No survey available
Franklin County	No survey available
Greene County	1932 Survey; Out of Print
Holmes County	1908 Survey; Out of Print
Kemper County	No survey available
Leake County	No survey available
Perry County	1922 Survey; Out of Print
Scott County	No survey available
Simpson County	1919 Survey; Out of Print
Smith County	1920 Survey; Out of Print
Stone County	No survey available
Wayne County	1911 Survey; Out of Print
Wilkinson County	1913 Survey; Out of Print
Winston County	1912 Survey; Out of Print

TABLE 8

MISSISSIPPI COUNTIES WITH MISSING DATA

County	No. of Changed Plots	Total No. of Plots
Attala County	8	62
Franklin County	4	50
Greene County	1	77
Holmes County	2	40
Kemper County	6	66
Leake County	4	35
Perry County	4	60
Scott County	3	44
Simpson County	2	37
Smith County	3	52
Stone County	1	54
Wayne County	5	76
Wilkinson County	3	46
Winston County	1	45
Total	47	744
State Totals	311	3003
Percent of State Totals	15	25

Average Productivity Measures

Average productivity measures for Oklahoma and Mississippi sample plots that changed land use during the last inventory were determined for each land use change category and for the total timber reversion and land clearing categories. By weighting the productivity measures of each plot's soil type by the plot's expansion factor, the average productivity measures were calculated (equation 1). Plots (or soil types) with missing productivity measurements were excluded from the weighted average procedure.

$$\bar{y}_j = \frac{\sum_{i=1}^{n} W_i X_{ij}}{\sum_{i=1}^{n} W_i} \qquad (1)$$

$\bar{y}_j$	=	Weighted average productivity measure
W_i	=	Weights (expansion factors)
X_{ij}	=	Productivity measure
i	=	Sample plots
j	=	Specific productivity measure (e.g. site index, or crop yield)

Statistical Analysis

To test for statistically significant land use changes and average productivity measures the Student's *t*-test was used. The Student's *t* measures the distance of a random variable from a hypothesized mean in units of standard deviations when the underlying distributions are assumed

normal (Steel and Torrie, 1980). The null hypothesis to be tested using the Student's *t'*-test is: no significant difference exists between the mean of the timber reversion category ($\bar{y}_1$) and the mean of the land clearing category $\bar{y}_2$ (Figure 3).

$$H_0: \bar{y}_1 - \bar{y}_2 = 0$$
$$H_A: \bar{y}_1 - \bar{y}_2 \neq 0$$

Figure 3. Null and Alternative Hypothesis for Student's *t'* tests

Statistical Procedures for Land Use Shifts

To test the land use hypothesis, the difference between the means of each category and the difference between the means of total timber reversions and total land clearings categories were tested. For example, the difference between the land use means (acreage) of the timber-to-pasture land use category and the pasture-to-timber category were tested and the difference between the means of the total timber reversions and land clearing categories were tested for each ten year period. The Student's *t*-

test for a difference between two means was required, equation (2).

$$t=\frac{(\bar{y}_1-\bar{y}_2)}{S_{\bar{y}_1-\bar{y}_2}} \tag{2}$$

$$S_{\bar{y}_1-\bar{y}_2} = \sqrt{S^2(\frac{n_1 + n_2}{n_1 n_2})} \tag{3}$$

The $\bar{y}_1$ is the mean of the timber reversion category (timber uses) and $\bar{y}_2$ is the mean of the land clearing category (non-timber uses). $S\bar{y}_1-\bar{y}_2$ is the standard deviation for the difference between the two means. Equation (3) is the $S\bar{y}_1-\bar{y}_2$ for the difference of two means with equal variances (S^2) and unequal sample size (n_i). The assumption of unequal variances and sample sizes requires the use of an approximation of the Student's *t* distribution or a Student's *t'* (Steel and Torrie, 1980). Therefore, a Student's *t'* can be determined using equation (4).

$$t' = \frac{(\bar{y}_1 - \bar{y}_2)}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}} \tag{4}$$

To determine a critical value for the Student's *t*, a tabulated *t* with effective degrees of freedom should be used (Steel and Torrie, 1980). The effective degrees of freedom can be calculated using equation (5).

$$df = \frac{\left(\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}\right)^2}{\frac{\left(\frac{s_1^2}{n_1}\right)^2}{n_1 - 1} + \frac{\left(\frac{s_2^2}{n_2}\right)^2}{n_2 - 1}} \qquad (5)$$

To determine if significant land use shifts occurred between related categories (e.g. timber-to-pasture vs pasture-to-timber) and between the total timber reversion and land clearings categories (net land use change), the means (acres) of the timber reversion categories and the land clearing categories were tested.

Statistical Procedures for Productivity Changes

To test the productive hypotheses, the average productivity measures (means) of the timber reversion and land clearing categories were tested to determine if significant productivity changes occurred between each related land use categories (e.g. timber-to-pasture vs pasture-to-timber) and between the total timber reversion and land clearings categories.

Because the average productivity measures are weighted means, the weighted variance must be considered in determining the standard deviation between two means ($S\bar{y}_1\text{-}\bar{y}_2$). Therefore, a Student's *t'* must incorporate the weights, such as equation (6).

$$t' = \frac{(\bar{y}_1 - \bar{y}_2)}{\sqrt{s_1^2 \frac{\sum_{i=1}^{n_1} W_{1i}^2}{(\sum_{i=1}^{n_1} W_{1i})^2} + s_2^2 \frac{\sum_{i=1}^{n_2} W_{2i}^2}{(\sum_{i=1}^{n_2} W_{2i})^2}}} \qquad (6)$$

The standard deviation of each mean (s^2_i) and the weights for each category (W_{ij}) are incorporated into the *t'*-test. The $\bar{y}_1$ is the average productivity measure of the timber reversion category (timber uses) and $\bar{y}_2$ is the average productivity measure of the land clearing category (non-timber uses). To determine a critical value for the weighted Student's *t'*, the effective degrees of freedom must consider the weighted variances of the samples, equation (7).

$$df = \frac{\left((s_1^2 \frac{\sum_{i=1}^{n_1} W_{1i}^2}{(\sum_{i=1}^{n_1} W_{1i})^2}) + (s_2^2 \frac{\sum_{i=1}^{n_2} W_{2i}^2}{(\sum_{1=i}^{n_2} W_{2i})^2})\right)^2}{\frac{(s_1^2 \frac{\sum_{i=1}^{n_1} W_{1i}^2}{(\sum_{i=1}^{n_1} W_{1i})^2})^2}{n_1 - 1} + \frac{(s_1^2 \frac{\sum_{i=1}^{n_2} W_{2i}^2}{(\sum_{i=1}^{n_2} W_{2i})^2})^2}{n_2 - 1}} \qquad (7)$$

The data for this research was assumed to be normally distributed and have unequal variances and sample sizes. Therefore equation (4) and equation (6) should be used to test the hypotheses of the study. A significant Student's *t'* indicates that a significant land use (acreage) shift or

significant productivity changes occurred in Oklahoma or Mississippi at the five or ten percent significance level.

Summary

This chapter provides an explanation of the procedures used to locate specific land use changes, to determine the productivity of the changed land area, and an explanation of the data that was applied to these procedures. The statistical procedures required for testing the hypotheses of the study were outlined.

CHAPTER III

ANALYTICAL RESULTS

The results of the land use analysis and the productivity change analysis are presented in this chapter. The land use analysis results include net land use changes of timberland for Oklahoma and Mississippi. Average productivity measurements and estimates of the net change in potential annual growth of timberland for each state are included in the productivity analysis results. Student's *t'*-tests revealed some significant land use shifts and no significant productivity changes.

Land Use Changes

Land use changes between forestry and agriculture for Oklahoma and Mississippi occurred in a cyclical pattern. A summarization of this cyclical pattern follows:

* Timberland areas were converted to pastureland
* Pastureland areas were converted to cropland
* Cropland areas were used for pastureland (or became idle farmland)
* Pastureland reverted to timberland (woodland), or
* Farmland (either idle or other) reverted to timberland uses

A general description of this pattern is that timberland converts to pastureland, pastureland shifts to cropland, cropland shifts to pastureland and pastureland reverts to timberland (Figure 4).

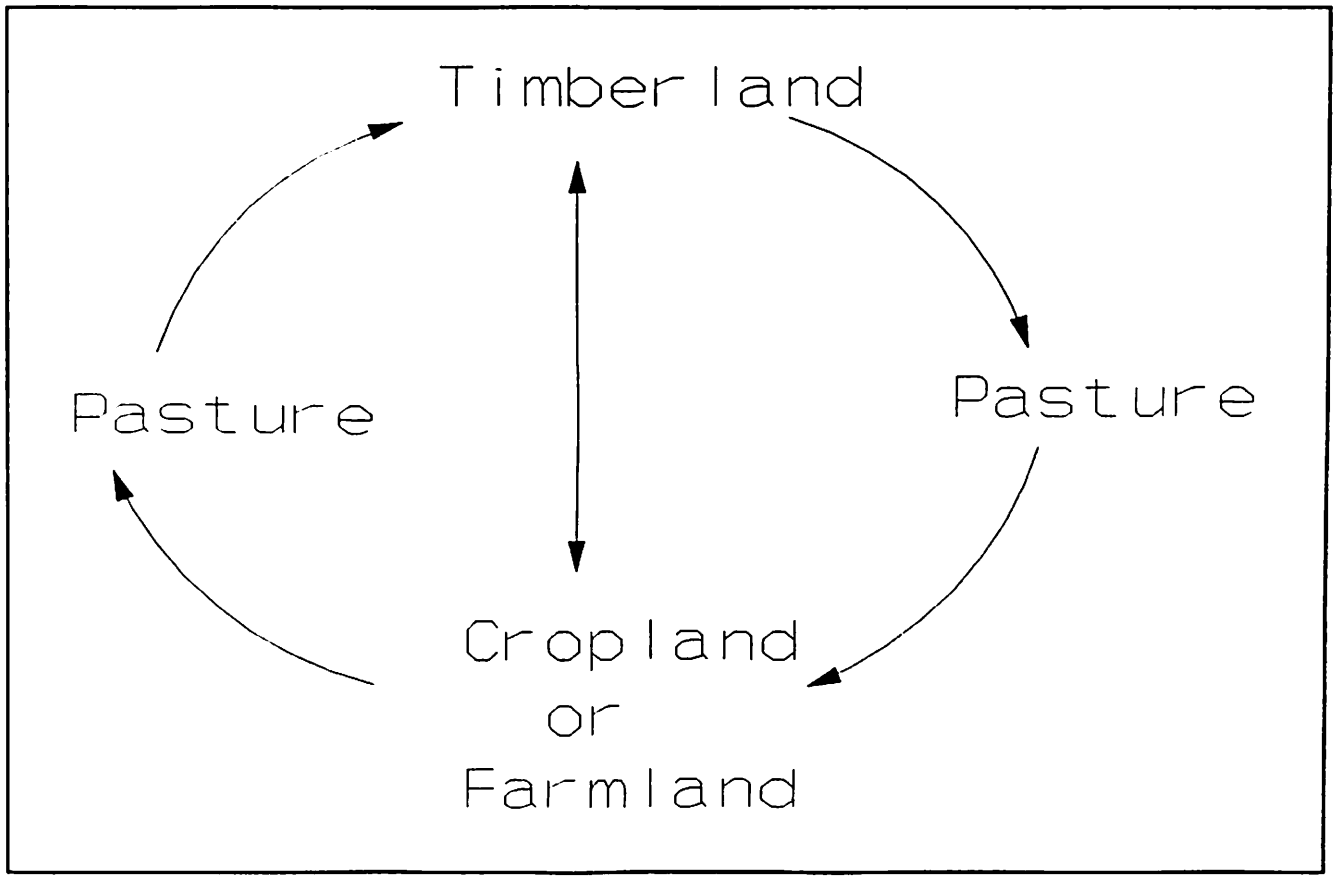

Figure 4. Cyclical Pattern of Land Use

The results of the land use change analysis for the sample states support this cyclical pattern over the two time periods (1966-1986 for Oklahoma and 1967-1987 for Mississippi). The greatest gains and losses of

timberland occurred between changes in timberland and improved pasture (Table 9). During the first time periods (1966-1976 for Oklahoma; 1967-1977 Mississippi) for the sample states, a net gain in agricultural land and a net loss in timberland occurred, while in the latter time periods net gains in timberland and net losses in agricultural lands occurred. Oklahoma counties with large net land use changes (both positive and negative) had relatively large acreage shifts between pastureland and timberland and between timberland and woodland, while relatively large acreage shifts in Mississippi counties occurred between pastureland and timberland and between timberland and urban uses.

TABLE 9

MAJOR LAND CLEARINGS AND REVERSIONS

	Oklahoma		Mississippi	
	1966-1976	1976-1986	1967-1977	1977-1987
Cropland to Timberland	0	0	0	184,025
Pasture to Timberland	0	**242,251**	0	**636,339**
Idle Farmland to Timberland	47,200	94,139	105,550	174,694
Other Farmland to Timberland	85,000	6,362	**428,293**	5,405
Urban Uses to Timberland	19,000	12,499	89,588	114,437
Woodland to Timberland	0	148,869	0	0
Reversions (Total Gain)	151,200	521,760	623,431	1,236,127
Timberland to Cropland	0	0	(462,015)	(149,026)
Timberland to Pasture	**(502,600)**	**(184,092)**	**(785,782)**	**(177,366)**
Timberland to Idle Farmland	(83,300)	0	(101,057)	(18,700)
Timberland to Other Farmland	0	(5,564)	(37,052)	(12,341)
Timberland to Urban Uses	(35,400)	(69,128)	**(215,393)**	**(231,242)**
Timberland to Woodland	0	(61,200)	0	0
Land Clearings (Total Loss)	(666,200)	(326,584)	(1,676,299)	(634,257)
Net Land Use Change	(515,000)	195,176	(1,052,868)	601,870

Oklahoma Land Use Analysis

Between 1966 and 1976, one hundred thirty-nine (15.9 percent) of 876 plots inventoried in Oklahoma changed land use (Appendix A, Table 20). Ninety-two (66.2 percent) of the changed plots converted from timberland (1966) to improved pasture (Table 21). Coal County had the highest percentage of changed plots in the state with 62.5 percent (10 of 16 plots) changing land use during the 1966-1976 period (Table 20).

All eighteen eastern Oklahoma counties had net losses in timberland area between 1966 and 1976. A significant difference exists between the reversions and land clearing uses for the 1966-1976 period at the one percent level (Table 10). Land clearings for improved pasture accounted for 75.4 percent (502,600 acres) of the timberland loss (Table 22). Conversions from the other farmland to timberland caused the largest gain, 85,000 acres or 56.2 percent of the gain (Table 23). Net timberland loss (reversions minus land clearings) for Oklahoma between 1966 and 1976 was 515,000 acres, which is significant at the one percent level, and a significant net loss of timberland was caused by conversions to urban uses (Table 10).

One hundred forty-three (16.9 percent) of 847 inventoried plots in Oklahoma changed land use between 1976 and 1986 (Table 25). Forty plots (28.0 percent) reverted from improved pasture to timberland while 32 plots (22.4 percent) converted from timberland to improved pasture (Table 26). Two counties had over 50 percent of the sample plots change land

use: 55.6 percent of the plots (5 out of 9) in Coal County, and 54.3 percent of the plots (19 out of 35) in Sequoyah County (Table 25).

TABLE 10

RESULTS OF STUDENT'S *t* TESTS FOR OKLAHOMA LAND USE CHANGES, 1966-1976

Categories	Reversion Mean	Land Clearing Mean	Student's t	DF
Woodland-Timberland	N/A	N/A	N/A	N/A
Reserved Timberland-Timberland	N/A	N/A	N/A	N/A
Improved Pasture-Timberland	N/A	N/A	N/A	N/A
Idle Farmland-Timberland	5229	5617	-5.14*	5
Other Farmland-Timberland	5657	N/A	N/A	N/A
Urban & Other Uses-Timberland	6333	5900	5.52*	5
Census Water-Timberland	N/A	N/A	N/A	N/A
Reversions vs Land Clearings	5590	5948	-69.59*	39

N/A -- Insufficient degrees of freedom to conduct test.
*--Significant at the one percent level.

Between 1976 and 1986, twelve Oklahoma counties had net gains of timberland, while six counties had net losses of timberland. Timberland conversions to improved pasture made up 56.4 percent of the timberland loss in Oklahoma (between 1976-1986), while timberland conversions to urban uses accounted for 21.2 percent of the timberland loss (Table 27). Improved pasture that reverted to timberland caused 46.4 percent of the gain in timberland area while woodland to timberland shifts caused 28.5 percent (Table 28). The net land use change in Oklahoma was estimated to

be a 195,176 acre increase in timberland area, a 4.5 percent gain (Table 29. This net gain of timberland (difference between land clearings and reversions categories) was significant at the one percent level (Table 11).

TABLE 11

RESULTS OF STUDENT'S *t* TESTS FOR OKLAHOMA LAND USE CHANGES, 1976-1986

Categories	Reversion Mean	Land Clearing Mean	Student's t	DF
Woodland-Timberland	6203	5645	0.0298	10
Reserved Timberland-Timberland	6265	N/A	N/A	N/A
Improved Pasture-Timberland	6056	5783	0.0093	31
Idle Farmland-Timberland	5884	N/A	N/A	N/A
Other Farmland-Timberland	6362	5564	N/A	N/A
Urban & Other Uses-Timberland	6250	5760	0.024	11
Census Water-Timberland	5110	5700	N/A	N/A
Reversions vs Land Clearings	6067	5730	3.48*	135

N/A -- Insufficient degrees of freedom to conduct test.
*--Significant at the one percent level.

Mississippi Land Use

Between 1967 and 1977, three hundred ninety-eight of 3099 plots inventoried (12.8 percent) in Mississippi changed land use (Appendix B, Table 46 and Table 47). One hundred thirty-seven (34.4 percent) of the changed plots converted from timberland (1966) to improved pasture use (Table 48). Quitman County had the highest percentage of changed plots

with 62.5 percent (5 of 8 plots) changing land use during the 1966-1976 period, while Tate County had 60.0 percent (9 of 15 plots) of the sample plots changing land use (Table 46 and Table 47).

Sixty-five counties in Mississippi had net losses of timberland area between 1967 and 1977, twelve counties had net gains of timberland and five counties remained unchanged. Land clearings for improved pasture account for 46.9 percent (785,782 acres) of the timberland loss, while 27.6 percent (462,015 acres) of the timberland loss was to cropland use (Table 49). Conversions from other farmland resulted in the largest gain, 68.7 percent (428,298 acres) of the total gain in timberland area (Table 50). Land use change in Mississippi between 1967 and 1977 resulted in a 1,052,868 acre net loss (reversions-land clearing) in timberland (Table 51), which was significant at the one percent level (Table 12). Significant differences between timber reversions and land clearings means occurred in the idle farmland-to- timberland, other farmland-to-timberland, and the urban-to-timberland categories.

Between 1977 and 1987, three hundred eleven (10.4 percent) of 3003 inventoried plots in Mississippi changed land use (Table 52 and Table 53). One hundred eight (34.7 percent) of the changed plots reverted from improved pasture to timberland use, 29 (9.3 percent) plots converted from timberland to improved pasture, and 39 (12.5 percent) plots converted from timberland to urban uses (Table 54). Tate County had the highest percentage of land use change with 35.7 percent of plots changing land use. (Table 52 and Table 53).

TABLE 12

RESULTS OF STUDENT'S *t* TESTS FOR MISSISSIPPI LAND USE CHANGES, 1967-1977

Categories	Reversion Mean	Land Clearing Mean	Student's t	DF
Reserved Timberland-Timberland	N/A	N/A	N/A	N/A
Cropland-Timberland	N/A	5725	N/A	N/A
Improved Pasture-Timberland	N/A	5735	N/A	N/A
Idle Farmland-Timberland	5860	5945	-12.85*	18
Other Farmland-Timberland	6032	5292	209.17*	70
Urban & Other Uses-Timberland	5600	5522	12.05*	15
Census Water-Timberland	N/A	5400	N/A	N/A
Noncensus Water-Timberland	N/A	6455	N/A	N/A
Reversions vs Land Clearings	5936	6095	73.87*	105

N/A -- Insufficient degrees of freedom to conduct test.
*--Significant at the one percent level.

Fifty-one Mississippi counties had net gains in timberland area, 27 counties had net losses of timberland and four counties remained unchanged between 1977 and 1987. Conversions of timberland to urban & other uses make up 36.5 percent of the timberland loss (231,242 acres), while land clearings for improved pasture uses account for 28.0 percent of the timberland loss (177,366 acres) between 1977 to 1987 (Table 55). Reversions from pastureland to timberland caused 51.5 percent (636,339 acres) of the timberland gain in Mississippi during this time period (Table 56). The net land use change in Mississippi was estimated to be a 601,870 acre increase in timberland area, a 3.6 percent increase (Table 57). Significant gains in timberland (at the one percent level) occurred between

the improved pasture-timberland and idle farmland-timberland categories (Table 13).

TABLE 13

RESULTS OF STUDENT'S *t* TESTS FOR MISSISSIPPI LAND USE CHANGES, 1977-1987

Categories	Reversion Mean	Land Clearing Mean	Student's t	DF
Reserved Timberland-Timberland	5988	5250	11.21*	11
Cropland-Timberland	6345	6480	-0.556	28
Improved Pasture-Timberland	5892	6105	-2.63*	107
Idle Farmland-Timberland	5823	6233	-3.95*	29
Other Farmland-Timberland	5405	6170	N/A	N/A
Urban & Other Uses-Timberland	6023	5930	0.413	18
Census Water-Timberland	4987	5895	N/A	N/A
Noncensus Water-Timberland	6036	5750	0.914	4
Inaccessible-Timberland	7100	N/A	N/A	N/A
Reversions vs Land Clearings	5972	6095	-1.007	176

N/A -- Insufficient degrees of freedom to conduct test.
*--Significant at the one percent level.

Productivity Changes Associated with the Land Use Changes

Average productivity measures for Oklahoma indicate that more productive land reverted to timber than to land clearing uses during the 1976-1986 period (Table 30), while slightly less productive land reverted to timber than to other uses from 1977 to 1987 in Mississippi (Table 58). Agricultural land uses had both more productive land entering agricultural production and more productive land exiting agricultural production in both

states. However, no significant differences were determined between the land use categories for both states by using the Student's *t'* test (Table 31 and Table 59).

Gains did occur in the net periodic volume of potential growth in both Oklahoma and Mississippi. Net periodic volume of potential growth (cubic feet of wood) was calculated by multiplying the potential average yearly growth of each land use category by the net land use change (acres) of each land use category (Table 32 and Table 60). The net gain in potential volume growth per year for Mississippi (Table 61) was estimated at approximately 7.0 million cubic feet of wood. This gain in potential annual growth of Mississippi timberland is approximately 1.2 percent of Mississippi's net annual softwood growth (581 million cubic feet) in 1984 (USDA FS, 1988). The gain in volume of potential annual growth of Oklahoma timberland (Table 33) was estimated to be approximately 1.7 million cubic feet or 3.7 percent of Oklahoma's net annual softwood growth (46 million cubic feet) in 1984 (USDA FS, 1988). The gain in potential net annual growth for the two states is approximately 1.4 percent of the net annual growth of softwood stock of the two states (627 million cubic feet) in 1984 (USDA FS, 1988).

Summary

Land use shifts occurred in a cyclical pattern; between timberland and pastureland and between pastureland and cropland (farmland) in Oklahoma from 1966 to 1986 and in Mississippi from 1967 to 1987. During the first

time period timberland was cleared for agricultural uses (mainly improved pasture), but during the latter time period timberland area was cleared for agricultural and urban uses. Net gains in timberland came largely from pastureland in both time periods. Both states had net losses in timberland area for the first period and net gains in timberland area were estimated for the second time periods. Statistically significant net gains and losses were determined for various land uses.

Productivity differences did occur between different land uses for the changed land areas in Oklahoma and Mississippi, but were proven statistically insignificant. Net gains in annual volume of potential growth of timber were determined from the available data.

CHAPTER IV

ECONOMIC IMPACTS OF THE LAND USE CHANGES

The 1991 version of the USDA Forest Service's Micro IMPLAN was used to examine the regional economic impacts of land use shifts on the study area. IMPLAN is a regional demand-driven input-output analysis system that can provide information on impacts of changes in final demand on a regional economy. Consequences of the final demand changes on the economy are determined by using user-supplied final demand changes and a Leontief multiplier matrix (Taylor et al., 1992). Through IMPLAN, economic impact analyses were conducted for Oklahoma and Mississippi by using the net change in volume of potential timber growth (per year) and estimated prices.

Information Requirements

A value for the land use changes was required to use IMPLAN. Therefore, values for the volume of potential timber growth were estimated on a per unit basis ($/cubic foot). To determine the value of the gains in annual volume of potential timber growth, the volume distribution of roundwood timber products and timber product prices are required. USDA FS estimates of the volume distribution for all timber products in 1984 were

used (USDA, 1988). The distribution (percentages of all timber products) was assumed to be the same for 1990. The volume of timber products was distributed across five product categories: sawlogs, veneer logs, pulpwood, fuelwood, and other industrial products. The product categories were separated into softwoods and hardwoods (Table 34 and Table 62). The percentages for each category (softwood and hardwood) were used to determine the amount (cubic feet of wood) of potential growth per year that would occur in each category (Table 35 and Table 63).

Yearly average prices (1990) for delivered products (softwood and hardwood) for each category were collected from Timber Mart-South Publications (1991). Mixed hardwood sawlog prices were used as a proxy for the other industrial products category. Timber Mart-South prices were quoted in thousand board feet (MBF) or in cords (cd) of wood. Therefore, the prices were converted into prices per cubic foot (cu. ft.) of wood by using Timber Mart-South's conversion factors (Table 14).

TABLE 14

CONVERSION FACTORS FOR TIMBER PRODUCTS

Pine: 1 MBF = 214 Cubic Feet
Hardwood: 1 MBF = 250 Cubic Feet
1 Cubic Foot = 70 Pounds
128 Cubic Feet/Cord for Pulpwood
15,000 Pounds/MBF for Pine
17,500 Pounds/MBF for Hardwood

The price per cubic foot (Table 36 and Table 64) of each product was multiplied by the volume of growth for each category to estimate the value of each product (softwood and hardwood) on a yearly basis (Table 37 and Table 65). The softwood and hardwood values were totaled by category to determine an estimate of the value of all timber products. The total value of all products was divided by the cubic feet of each category to determine a price per cubic foot of wood per category.

Wood products industries that are listed in IMPLAN were aggregated into the five timber products categories (Table 15). Remaining industries (listed in IMPLAN) were aggregated by the industry classification system in the Survey of Current Business (US Dept. of Commerce, 1991). The final demands for the timber products categories were changed by the estimated value of the timber growth.

IMPLAN provides impact reports of the direct effects, indirect effects and total effects of these changes on the respective state's economy. Direct effects are changes in production associated with the final demand changes. Production changes of linked industries resulting from changing input needs of the affected industries are reflected as indirect effects. Induced effects represent the changes in household spending patterns caused by changes in household income. Total effects are the sum of the direct, indirect and induced effects of a change in final demand for a commodity (Taylor et al., 1992).

TABLE 15

INDUSTRIES AND COMMODITIES AGGREGATED INTO THE FIVE TIMBER PRODUCTS CATEGORIES

Sawlog Industry
- Logging Camps and Logging Contractors
- Sawmills and Planning Mills
- Hardwood Dimension and Flooring Mills
- Special Product Sawmills, N.E.C.*
- Millwork

Veneer Industry
- Veneer and Plywood
- Wood Kitchen Cabinets
- Structural Wood Members, N.E.C.

Pulpwood Industry
- Pulp Mills
- Paper Mills, except building paper
- Paperboard Mills
- Paperboard Containers and Boxes
- Paper Coated & Laminated Package
- Paper Coated & Laminated, N.E.C.
- Paper Bags
- Die-cut Paper and Board
- Envelopes
- Stationery Products
- Converted Paper Products, N.E.C.

Fuelwood Industry
- Wood Products, N.E.C.

Other Industrial Products
- Wood Pallets and Skids
- Wood Containers
- Wood Preserving
- Reconstituted Wood Products

* N.E.C.: Not elsewhere classified.

Economic Impacts for Oklahoma

Total effects on final demand for Oklahoma was an 1.59 million dollars increase (0.002 percent) from the 1990 base year (Table 38 and Table 39). Induced effects on final demand were estimated at 0.47 million dollars, and no indirect effects were determined (Table 40 and Table 41). The production agricultural aggregations (Industry 1 and 10) were minimally affected ($2,500) by the changes in final demand for timber products compared to the total effects on final demand of the "Food and Kindred Products" aggregation ($13,700). The "Health, Education and Social Services" aggregation had the largest increase in final demand for a non-timber industry with an estimated 116,800 dollars increase or 7.3 percent of the total increase in final demand.

The increase in health and education services may be associated with increases in employment and population. Total employment increased by approximately 31 jobs (30.23). Twelve jobs were associated with both direct and indirect effects, while seven jobs were associated with induced effects. Total population increased by 59 people with 23 caused by direct effects, 14 associated with indirect effects, and 22 resulting from induced effects.

Total effects on industry output (TIO) for Oklahoma increased by approximately 2.22 million dollars. Of this amount, 500,000 dollars was associated with backward-linked industries (indirect effects) and 600,000 dollars increase was associated with changes in regional household spending

(induced effects). The industry output of the five timber products industries increased by 1.21 million dollars or 54.6 percent of the increase in Oklahoma's total industry output.

Economic Impacts for Mississippi

Total effects on final demand for Mississippi was an 6.23 million dollars increase (0.01 percent) from the 1990 base year (Table 66 and Table 67). Induced effects on final demand were estimated at 1.55 million dollars, and no indirect effects were determined (Table 68 and Table 69). The increase in final demand for "Food and Kindred Products" ($54,600) caused by changes in final demand for timber products was larger than the increase in final demand for production agricultural products ($5,400). The "Wholesale and Retail" aggregation had the largest increase in final demand for a non-timber industry with an estimated 395,700 dollar increase or 6.3 percent of Mississippi's total increase in final demand. "Health, Education and Social Services" increased by 300,900 dollars from the 1990 base year estimates of final demand.

Total employment and population increased in the model. Total employment increased by approximately 117 jobs (116.94). Forty-eight jobs were associated with direct effects, 32 jobs were in linked industries (indirect effects), and 37 resulted from changes in household spending (induced effects). Total population increased by 254 people with 105

resulting from direct effects, 70 associated with indirect effects, and 80 resulting from induced effects.

Total effects on industry output (TIO) for Mississippi increased by approximately 8.91 million dollars (0.01 percent) from the base year. Approximately 2.40 million dollars was associated with backward-linked industries (indirect effects) and an increase of 1.78 million dollars was associated with changes in regional household spending (induced effects). The industry output of the five timber products industries increased by 4.84 million dollars or 54.4 percent of the increase in Oklahoma's total industry output.

Summary

The economic impacts of the net gains in volume of potential timber growth (land use changes) were analyzed using the USDA Forest Service's Micro IMPLAN. Direct, indirect, and induced effects of the changes in final demand for timber products are presented for Oklahoma and Mississippi. The total effects of the changes are relatively insignificant compared to the respective state's economy.

CHAPTER V

SUMMARY AND CONCLUSIONS

The main objective of this study was to develop a set of procedures to assess specific land use changes and the associated productivity changes of timberland and agricultural land. The economic impacts of the identified land use changes were estimated for a two state area (Oklahoma and Mississippi). Procedures used to determine specific land use changes, estimate net land use changes, and reveal the productivity of the changed land area were outlined. Statistical procedures required to test for significance of the discovered changes were also presented.

Land use changes have occurred throughout United States history. Results of this study were consistent with historical land use trends. Increased demand for agricultural commodities caused by exogenous events of the 1970s resulted in agricultural land area increases and timberland area decreases in the sample states. During the late 1970s and early 1980s, decreased demand for agricultural land and governmental conservation policies may have resulted in timberland increases through plantings and/or by natural regeneration. Over the 20 year period (1960s-1980s), Oklahoma, Mississippi and the southern United States experienced net timberland losses.

Land use shifts between forestry and agricultural uses occurred in a cyclical pattern over the 20 year period. Land shifted from timberland to pastureland, then from pastureland to cropland, and then reverted to timberland through pastureland. Relatively large losses and gains of timberland occurred between timber-to-pasture and pasture-to-timber shifts. Land also shifted to urban uses during the 20 year period, which is consistent with the findings of Alig et al (1988). In Mississippi, urban use accounted for 12.8 percent of the timberland loss in the 1967-1977 time period compared to 36.5 percent in the 1977-1987 period. Statistical results reflected the effects of urban use conversions on timberland areas.

Land use changes may have been a contributing factor in the decline of southern softwood timber productivity. Productivity differences did occur between land uses for changed land areas in Oklahoma and Mississippi, but these differences were statistically insignificant. However, net gains in annual volume of potential growth of timber were determined from the available data.

These net gains in annual volume of potential growth had positive impacts on the regional economy. Increases in the respective state's total industry output, final demand and employment occurred as a result of the gains in volume of potential timber growth. The timber products industry effects many industries in the regional economies, including health and educational services, and the food products industries.

Suggestions for Further Research

Productivity databases for changed land area on a state and regional level are unavailable. The determination of productivity measures of SOFIA plots would provide an excellent basis for developing a productivity database. During future SOFIA inventories, the productivity of the sample plots could be documented during on-ground-assessments. Documentation of the plots' productive capacity could involve locating the sample plots on USDA SCS Soil Survey Maps and determining the soil type of land area.

Information about historical productivity trends could also be determined from past sample plots of the Soil Bank Programs (1950s and 1960s). By determining the soil types of these plots, possible productivity changes could be determined by applying the procedures of this research.

The statistical significance of the urban land use shifts suggests the need for additional research. Although increases in population and real income have been linked to timberland declines (Alig and Healy, 1987), research is needed to determine the reasons for timberland-to-urban use conversions relative to agricultural land-to-urban uses conversions. The rationale behind these urban land clearings could assist policy makers.

While previous studies have identified factors that cause conversions of timberland to cropland, factors that influence conversions of timberland to pastureland have rarely been addressed. Because the majority of the land use changes examined in this study occurred between pastureland and timberland, identification of the factors influencing pastureland to timberland

changes are essential for forecasting the productive capacity of agriculture and forestry commodities in the South.

Discussion

The United States Department of Agriculture Forest Service policy that prohibits the release of sample plot locations hindered the productivity analysis of this study. The exact location of the sample plots would provide better productivity measures of changed land areas and could provide significantly different results. With consistent data, resource analysts and policy makers could better assess the impacts of land use changes on timber and agricultural output.

The importance of land use changes is apparent because federal land use policies are utilized to control agricultural output (e.g. cropland set-aside programs). Federal land use restrictions may affect not only agricultural output by restricting or increasing the quantity of acreage in production, but may affect timber output. These restrictions may also influence timber and agricultural output through changing productivity levels. Recent studies (Hyberg et al., 1992; Moulton et al., 1989) have suggested that land use changes may result in economic activity effects on rural communities. The specific causes of land use change and impacts of land use change on the productive capacity of timber and agricultural commodities will assist federal, state, and local governments in drafting policies to promote the efficient allocation of land between alternative uses.

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APPENDIXES

APPENDIX A

OKLAHOMA TABLES

TABLE 16

OKLAHOMA PLOT CHANGES BY COUNTY, 1966 TO 1976

Plot ID	CO	Ground Use 1976	Ground Use 1966
Adair County			
40001029	1	64 Idle Farmland	20 Timberland
40001032	1	62 Improved Pasture	20 Timberland
40001052	1	62 Improved Pasture	20 Timberland
Atoka County			
40005001	5	20 Timberland	66 Other Farmland
40005013	5	62 Improved Pasture	20 Timberland
40005029	5	62 Improved Pasture	20 Timberland
40005034	5	62 Improved Pasture	20 Timberland
40005037	5	62 Improved Pasture	20 Timberland
40005038	5	62 Improved Pasture	20 Timberland
40005040	5	20 Timberland	66 Other Farmland
40005052	5	20 Timberland	66 Other Farmland
40005083	5	62 Improved Pasture	20 Timberland
40005094	5	62 Improved Pasture	20 Timberland
40005106	5	20 Timberland	66 Other Farmland
40005109	5	62 Improved Pasture	20 Timberland
Bryan County[1]			
40013002	13	20 Timberland	
40013003	13	20 Timberland	
40013009	13	20 Timberland	
40013021	13	20 Timberland	
40013024	13	20 Timberland	
40013029	13	20 Timberland	
40013030	13	20 Timberland	
40013042	13	20 Timberland	
40013045	13	20 Timberland	
40013048	13	20 Timberland	
40013070	13	20 Timberland	
40013096	13	20 Timberland	
40013097	13	20 Timberland	
40013099	13	20 Timberland	
40013103	13	20 Timberland	
Cherokee County			
40021013	21	64 Idle Farmland	20 Timberland
40021044	21	20 Timberland	66 Other Farmland
40021050	21	62 Improved Pasture	20 Timberland
40021068	21	62 Improved Pasture	20 Timberland
40021073	21	20 Timberland	64 Idle Farmland
Choctaw County			
40023001	23	20 Timberland	64 Idle Farmland
40023015	23	62 Improved Pasture	20 Timberland
40023016	23	20 Timberland	66 Other Farmland
40023019	23	92 NonCensus Water	20 Timberland

[1] County was not inventoried in 1966.

TABLE 16 (Continued)

Plot ID	CO	Ground Use 1976	Ground Use 1966
40023023	23	62 Improved Pasture	20 Timberland
40023025	23	91 Census Water	20 Timberland
40023026	23	62 Improved Pasture	20 Timberland
40023027	23	62 Improved Pasture	20 Timberland
40023049	23	64 Idle Farmland	20 Timberland
40023056	23	62 Improved Pasture	20 Timberland
40023060	23	20 Timberland	64 Idle Farmland
40023062	23	20 Timberland	64 Idle Farmland
40023064	23	62 Improved Pasture	20 Timberland
40023065	23	62 Improved Pasture	20 Timberland
40023066	23	64 Idle Farmland	20 Timberland
40023071	23	62 Improved Pasture	20 Timberland
40023082	23	62 Improved Pasture	20 Timberland
Coal County			
40029008	29	62 Improved Pasture	20 Timberland
40029009	29	62 Improved Pasture	20 Timberland
40029013	29	62 Improved Pasture	20 Timberland
40029025	29	62 Improved Pasture	20 Timberland
40029026	29	62 Improved Pasture	20 Timberland
40029037	29	62 Improved Pasture	20 Timberland
40029040	29	67 Urban & Other	20 Timberland
40029046	29	20 Timberland	67 Urban & Other
40029047	29	62 Improved Pasture	20 Timberland
40029048	29	62 Improved Pasture	20 Timberland
Delaware County			
40041001	41	62 Improved Pasture	20 Timberland
40041002	41	62 Improved Pasture	20 Timberland
40041007	41	62 Improved Pasture	20 Timberland
40041032	41	62 Improved Pasture	20 Timberland
40041049	41	62 Improved Pasture	20 Timberland
40041054	41	62 Improved Pasture	20 Timberland
40041058	41	67 Urban & Other	20 Timberland
40041064	41	62 Improved Pasture	20 Timberland
40041071	41	62 Improved Pasture	20 Timberland
Haskell County			
40061010	61	62 Improved Pasture	20 Timberland
40061015	61	92 NonCensus Water	20 Timberland
40061042	61	20 Timberland	66 Other Farmland
Latimer County			
40077001	77	62 Improved Pasture	20 Timberland
40077020	77	62 Improved Pasture	20 Timberland
40077041	77	62 Improved Pasture	20 Timberland
Le Flore County			
40079001	79	20 Timberland	67 Urban & Other
40079004	79	62 Improved Pasture	20 Timberland
40079059	79	20 Timberland	66 Other Farmland
40079060	79	62 Improved Pasture	20 Timberland
40079061	79	64 Idle Farmland	20 Timberland
40079063	79	62 Improved Pasture	20 Timberland
40079091	79	62 Improved Pasture	20 Timberland

TABLE 16 (Continued)

Plot ID	CO	Ground Use 1976	Ground Use 1966
40079097	79	20 Timberland	66 Other Farmland
40079106	79	62 Improved Pasture	20 Timberland
40079127	79	50 Reserved Timber	20 Timberland
40079131	79	62 Improved Pasture	20 Timberland
40079138	79	62 Improved Pasture	20 Timberland
40079143	79	62 Improved Pasture	20 Timberland
40079154	79	20 Timberland	66 Other Farmland
40079158	79	62 Improved Pasture	20 Timberland
40079159	79	62 Improved Pasture	20 Timberland
40079173	79	91 Census Water	20 Timberland
McCurtain County			
40089025	89	62 Improved Pasture	20 Timberland
40089041	89	62 Improved Pasture	20 Timberland
40089060	89	20 Timberland	64 Idle Farmland
40089062	89	62 Improved Pasture	20 Timberland
40089069	89	62 Improved Pasture	20 Timberland
40089076	89	91 Census Water	20 Timberland
40089090	89	91 Census Water	20 Timberland
40089092	89	67 Urban & Other	20 Timberland
40089098	89	62 Improved Pasture	20 Timberland
40089115	89	62 Improved Pasture	20 Timberland
40089119	89	67 Urban & Other	20 Timberland
40089166	89	62 Improved Pasture	20 Timberland
40089170	89	62 Improved Pasture	20 Timberland
40089200	89	62 Improved Pasture	20 Timberland
40089203	89	62 Improved Pasture	20 Timberland
40089204	89	91 Census Water	20 Timberland
40089211	89	20 Timberland	64 Idle Farmland
McIntosh County			
40091056	91	62 Improved Pasture	20 Timberland
40091057	91	62 Improved Pasture	20 Timberland
40091062	91	20 Timberland	64 Idle Farmland
40091074	91	62 Improved Pasture	20 Timberland
40091081	91	62 Improved Pasture	20 Timberland
Mayes County			
40097012	97	62 Improved Pasture	20 Timberland
40097014	97	62 Improved Pasture	20 Timberland
40097022	97	67 Urban & Other	20 Timberland
40097059	97	62 Improved Pasture	20 Timberland
Muskogee County			
40101008	101	64 Idle Farmland	20 Timberland
Ottawa County			
40115002	115	62 Improved Pasture	20 Timberland
40115004	115	62 Improved Pasture	20 Timberland
40115010	115	62 Improved Pasture	20 Timberland
40115011	115	62 Improved Pasture	20 Timberland
40115015	115	62 Improved Pasture	20 Timberland
40115041	115	62 Improved Pasture	20 Timberland

TABLE 16 (Continued)

Plot ID	CO	Ground Use 1976	Ground Use 1966
Pittsburg County			
40121012	121	62 Improved Pasture	20 Timberland
40121031	121	62 Improved Pasture	20 Timberland
40121062	121	62 Improved Pasture	20 Timberland
40121065	121	62 Improved Pasture	20 Timberland
40121069	121	62 Improved Pasture	20 Timberland
40121094	121	20 Timberland	64 Idle Farmland
40121100	121	20 Timberland	66 Other Farmland
40121101	121	62 Improved Pasture	20 Timberland
40121132	121	62 Improved Pasture	20 Timberland
Pushmataha County			
40127027	127	20 Timberland	64 Idle Farmland
40127044	127	62 Improved Pasture	20 Timberland
40127056	127	20 Timberland	66 Other Farmland
40127064	127	20 Timberland	66 Other Farmland
40127072	127	62 Improved Pasture	20 Timberland
40127086	127	20 Timberland	66 Other Farmland
40127090	127	20 Timberland	66 Other Farmland
40127091	127	67 Urban & Other	20 Timberland
40127105	127	62 Improved Pasture	20 Timberland
40127110	127	62 Improved Pasture	20 Timberland
40127111	127	62 Improved Pasture	20 Timberland
40127122	127	62 Improved Pasture	20 Timberland
Sequoyah County			
40135004	135	62 Improved Pasture	20 Timberland
40135017	135	62 Improved Pasture	20 Timberland
40135030	135	62 Improved Pasture	20 Timberland
40135032	135	62 Improved Pasture	20 Timberland
40135033	135	62 Improved Pasture	20 Timberland
40135034	135	20 Timberland	67 Urban & Other

TABLE 17

OKLAHOMA PLOT CHANGES BY COUNTY, 1976 TO 1986

Plot ID	CO	Ground Use 1986	Ground Use 1976
Adair County			
40001009	1	62 Improved pasture	20 Timberland
40001024	1	62 Improved pasture	20 Timberland
40001026	1	67 Urban & other	20 Timberland
Atoka County			
40005005	5	62 Improved pasture	20 Timberland
40005026	5	40 Woodland	20 Timberland
40005029	5	20 Timberland	62 Improved pasture
40005052	5	62 Improved pasture	20 Timberland
40005054	5	20 Timberland	62 Improved pasture
40005058	5	62 Improved pasture	20 Timberland
40005065	5	62 Improved pasture	20 Timberland
40005071	5	40 Woodland	20 Timberland
40005079	5	20 Timberland	66 Other farmland
40005083	5	20 Timberland	62 Improved pasture
40005086	5	20 Timberland	40 Woodland
40005098	5	20 Timberland	40 Woodland
Bryan County			
40013013	13	20 Timberland	40 Woodland
40013020	13	20 Timberland	62 Improved pasture
40013028	13	20 Timberland	62 Improved pasture
40013046	13	20 Timberland	62 Improved pasture
40013092	13	20 Timberland	62 Improved pasture
Cherokee County			
40021004	21	20 Timberland	62 Improved pasture
40021014	21	62 Improved pasture	20 Timberland
40021015	21	67 Urban & other	20 Timberland
40021025	21	66 Other farmland	20 Timberland
40021038	21	20 Timberland	40 Woodland
40021044	21	62 Improved pasture	20 Timberland
40021048	21	62 Improved pasture	20 Timberland
40021063	21	20 Timberland	40 Woodland
40021064	21	67 Urban & other	20 Timberland
40021080	21	20 Timberland	40 Woodland
40021085	21	20 Timberland	40 Woodland
Choctaw County			
40023015	23	20 Timberland	62 Improved pasture
40023023	23	20 Timberland	62 Improved pasture
40023031	23	20 Timberland	62 Improved pasture
40023062	23	40 Woodland	20 Timberland
40023063	23	62 Improved pasture	20 Timberland
40023090	23	62 Improved pasture	20 Timberland
Coal County			
40029013	29	20 Timberland	62 Improved pasture
40029031	29	62 Improved pasture	20 Timberland
40029036	29	20 Timberland	62 Improved pasture
40029045	29	62 Improved pasture	20 Timberland
40029046	29	62 Improved pasture	20 Timberland

TABLE 17 (Continued)

Plot ID	CO	Ground Use 1986	Ground Use 1976
Delaware County			
40041003	41	62 Improved pasture	20 Timberland
40041017	41	20 Timberland	62 Improved pasture
40041019	41	62 Improved pasture	20 Timberland
40041034	41	20 Timberland	62 Improved pasture
40041036	41	20 Timberland	62 Improved pasture
40041042	41	20 Timberland	62 Improved pasture
40041048	41	67 Urban & other	20 Timberland
40041057	41	67 Urban & other	20 Timberland
Haskell County			
40061010	61	20 Timberland	62 Improved pasture
40061018	61	20 Timberland	64 Idle farmland
40061023	61	20 Timberland	40 Woodland
40061030	61	20 Timberland	64 Idle farmland
40061033	61	20 Timberland	62 Improved pasture
40061047	61	20 Timberland	62 Improved pasture
40061053	61	20 Timberland	40 Woodland
40061054	61	20 Timberland	62 Improved pasture
40061056	61	20 Timberland	64 Idle farmland
40061062	61	40 Woodland	20 Timberland
40061070	61	20 Timberland	91 Census water
Latimer County			
40077030	77	62 Improved pasture	20 Timberland
40077039	77	67 Urban & other	20 Timberland
40077053	77	20 Timberland	50 Reserved timberland
40077054	77	20 Timberland	40 Woodland
Le Flore County			
40079007	79	62 Improved pasture	20 Timberland
40079024	79	40 Woodland	20 Timberland
40079034	79	62 Improved pasture	20 Timberland
40079061	79	20 Timberland	64 Idle farmland
40079081	79	67 Urban & other	20 Timberland
40079093	79	20 Timberland	62 Improved pasture
40079094	79	20 Timberland	62 Improved pasture
40079125	79	67 Urban & other	20 Timberland
40079126	79	20 Timberland	64 Idle farmland
40079127	79	20 Timberland	50 Reserved timberland
40079170	79	20 Timberland	62 Improved pasture
McCurtain County			
40089015	89	20 Timberland	62 Improved pasture
40089018	89	20 Timberland	64 Idle farmland
40089019	89	20 Timberland	62 Improved pasture
40089025	89	20 Timberland	62 Improved pasture
40089056	89	20 Timberland	40 Woodland
40089098	89	20 Timberland	62 Improved pasture
40089119	89	20 Timberland	67 Urban & other
40089167	89	62 Improved pasture	20 Timberland
40089196	89	62 Improved pasture	20 Timberland
40089197	89	67 Urban & other	20 Timberland
40089215	89	20 Timberland	64 Idle farmland

TABLE 17 (Continued)

Plot ID	CO	Ground Use 1986	Ground Use 1976
McIntosh County			
40091004	91	20 Timberland	64 Idle farmland
40091017	91	62 Improved pasture	20 Timberland
40091051	91	62 Improved pasture	20 Timberland
40091059	91	62 Improved pasture	20 Timberland
40091066	91	62 Improved pasture	20 Timberland
Mayes County			
40097029	97	20 Timberland	62 Improved pasture
40097050	97	20 Timberland	67 Urban & other
40097075	97	20 Timberland	64 Idle farmland
Muskogee County			
40101008	101	20 Timberland	64 Idle farmland
40101021	101	20 Timberland	62 Improved pasture
40101028	101	20 Timberland	62 Improved pasture
40101048	101	40 Woodland	20 Timberland
40101068	101	20 Timberland	64 Idle farmland
40101070	101	62 Improved pasture	20 Timberland
Ottawa County			
40115049	115	20 Timberland	64 Idle farmland
Pittsburg County			
40121002	121	20 Timberland	64 Idle farmland
40121003	121	40 Woodland	20 Timberland
40121005	121	67 Urban & other	20 Timberland
40121016	121	40 Woodland	20 Timberland
40121028	121	40 Woodland	20 Timberland
40121029	121	20 Timberland	40 Woodland
40121045	121	20 Timberland	62 Improved pasture
40121046	121	62 Improved pasture	20 Timberland
40121054	121	20 Timberland	62 Improved pasture
40121069	121	20 Timberland	62 Improved pasture
40121074	121	62 Improved pasture	20 Timberland
40121078	121	40 Woodland	20 Timberland
40121105	121	40 Woodland	20 Timberland
Pushmataha County			
40127008	127	20 Timberland	40 Woodland
40127010	127	62 Improved pasture	20 Timberland
40127040	127	67 Urban & other	20 Timberland
40127056	127	62 Improved pasture	20 Timberland
40127072	127	20 Timberland	62 Improved pasture
40127078	127	91 Census water	20 Timberland
40127100	127	62 Improved pasture	20 Timberland
40127140	127	67 Urban & other	20 Timberland
40127149	127	62 Improved pasture	20 Timberland
Sequoyah County			
40135005	135	20 Timberland	62 Improved pasture
40135024	135	20 Timberland	40 Woodland
40135025	135	20 Timberland	40 Woodland
40135026	135	20 Timberland	40 Woodland
40135027	135	20 Timberland	64 Idle farmland

TABLE 17 (Continued)

Plot ID	CO	Ground Use 1986	Ground Use 1976
40135031	135	20 Timberland	62 Improved pasture
40135032	135	20 Timberland	62 Improved pasture
40135033	135	20 Timberland	62 Improved pasture
40135040	135	20 Timberland	40 Woodland
40135047	135	20 Timberland	40 Woodland
40135049	135	20 Timberland	64 Idle farmland
40135061	135	20 Timberland	62 Improved pasture
40135063	135	20 Timberland	64 Idle farmland
40135065	135	20 Timberland	40 Woodland
40135067	135	20 Timberland	40 Woodland
40135068	135	20 Timberland	40 Woodland
40135069	135	20 Timberland	40 Woodland
40135080	135	20 Timberland	40 Woodland
40135081	135	20 Timberland	40 Woodland

TABLE 18

OKLAHOMA PRODUCTIVITY MEASURES FOR CROPS

Plot ID	Soil Type	Soil #	Map Index -Section	Wheat (Bu.)	Sorghum (Bu.)	Soybeans (Bu.)	Cotton (Lb.)
Adair County							
40001009	Bodine	BoE	23-19	*	*	*	*
40001029	Hector	Hc	48-36	*	*	*	*
40001026	Hector	Hc	38-25	*	*	*	*
Atoka County							
40005005	Carnasaw	22	10-10	*	*	*	*
40005026	Parsons	57	5-29	30	50	30	450
40005029	Carnasaw	22	21-14	*	*	*	*
40005052	Eram	40	14-26	*	*	*	*
40005054	Carnasaw	22	25-36	*	*	*	*
40005058	Larue	54	57-25	20	35	20	*
40005065	Carnasaw	22	40-29	*	*	*	*
40005071	Eram	40	7-06	*	*	*	*
40005079	Kaufman	50	63-09	35	70	35	500
40005083	Bosville	17	55-22	*	*	*	*
40005086	Eram	38	30-08	20	35	20	*
40005098	Dennis	31	29-18	38	62	32	450
Bryan County							
40013013	Bernow	8	14-34	20	30	15	*
40013020	Muskogee	58	47-30	33	56	60	400
40013028	Parsons	67	21-04	32	50	26	450
40013046	Dennis	25	20-02	34	55	28	375
40013092	Dennis	24	26-34	38	62	32	450

TABLE 18 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Wheat (Bu.)	Sorghum (Bu.)	Soybeans (Bu.)	Cotton (Lb.)
Cherokee County							
40021004	Clarksville	ClF	82-34	15	42	14	*
40021014	Talpa-Rock	TrF	117-17	*	*	*	*
40021015	Hector-Linker	HlE	113-30	20	30	15	300
40021025	Clarksville	ClF	66-11	15	42	14	*
40021038	Hector-Linker	HlE	116-16	20	30	15	300
40021044	Eldorado	EdC	86-09	22	41	18	*
40021048	Clarksville	CkD	65-09	15	42	14	*
40021063	Hector-Linker	HlE	111-26	20	30	15	300
40021064	Okemah	OkA	103-35	32	52	25	*
40021080	Hector-Linker	HlE	96-04	20	30	15	300
40021085	Hector-Linker	HlE	83-11	20	30	15	300
Choctaw County							
40023015	Whakana	59	59-33	25	55	30	350
40023023	Tenaha	51	29-04	20	30	*	*
40023031	Muskogee	36	48-05	35	55	30	400
40023062	Durant	17	25-12	35	50	28	400
40023063	Bosville	11	35-25	*	*	*	*
40023090	Bernow	4	32-26	20	30	15	*
Coal County							
40029013	Homa	HoE	07-23	*	*	*	*
40029031	Homa	HoE	27-26	*	*	*	*
40029036	Lanton	Lc	27-30	36	60	*	450
40029045	Parson	PaB	37-34	28	38	30	450
40029046	Talpa-Rock	TrE	31-31	*	*	*	*

TABLE 18 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Wheat (Bu.)	Sorghum (Bu.)	Soybeans (Bu.)	Cotton (Lb.)
Delaware County							
40041003	Clarksville	ClF	56-09	15	42	14	*
40041017	Dennis	DnB	14-11	30	48	21	*
40041019	Baxter	BhB	24-02	18	34	18	*
40041034	Baxter	BhB	23-06	18	34	18	*
40041036	Clarksville	ClE	13-(6-7)	15	42	14	*
40041042	Clarksville	ClF	28-27	15	42	14	*
40041048	Baxter-Locust	BlC	60-35	17	30	18	*
40041057	Clarksville	ClE	12-18	15	42	14	*
Haskell County							
40061010	Liberal-Spiro	LcC	32-35	25	40	20	400
40061018	Porum	PoC2	5-34	15	25	*	250
40061023	Liberal & Collinsville	LdE	23-08	*	*	*	*
40061030	Hector-Linker	HlC	38-15	20	30	15	300
40061033	Hector-Linker	HlC	14-27	20	30	15	300
40061047	Hector	HcD	29-33	*	*	*	*
40061053	Liberal-Spiro	LcC	42-29	25	40	20	400
40061054	Spiro	SnC	48-05	25	35	20	400
40061056	Enders-Hector	EhE	48-11	*	*	*	*
40061062	Stigler	SrB	19-08	30	45	25	500
40061070	Sallisaw	SfB	18-10	30	45	25	450
Latimer County							
40077030	Yanush	3	40-31	*	*	*	*
40077039	Carnasaw	8	02	*	*	*	*
40077053	Carnasaw	8	09-20	*	*	*	*
40077054	Carnasaw	8	04-09	*	*	*	*
Le Flore County							
40079007	Pirum-Clebit	51	37-01	21	30	20	*
40079024	Pirum-Clebit	51	71-34	21	30	20	*
40079034	Cowton	21	27-12	17	22	15	*
40079061	Speer	70	73-13	27	59	28	*

TABLE 18 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Wheat (Bu.)	Sorghum (Bu.)	Soybeans (Bu.)	Cotton (Lb.)
40079081	Sallisaw	59	26-05	28	42	25	*
40079093	Octavia	53	76-28	*	*	*	*
40079094	Octavia	53	79-16	*	*	*	*
40079125	Bengal	2	49-19	*	*	*	*
40079126	Carnasaw	7	57-20	*	*	*	*
40079127	Carnasaw	6	61-33	*	*	*	*
40079170	Carnasaw	6	48-24	*	*	*	*
McCurtain County							
40089015	Ruston	RuD	47-05	28	45	20	45
40089018	Felker	FeA	55-09	*	35	16	375
40089019	Sumter	SuE	*	*	*	*	*
40089025	Kinta	KnA	51-31	*	30	20	*
40089056	Felker	FeA	50-36	*	35	16	375
40089098	Pledger	Pg	49-31	25	60	35	500
40089119	Goldston-Carnasaw-Sceul	GsF	03-17	*	*	*	*
40089167	Tiak-Ruston	TkC	39-17	*	40	20	400
40089196	Rexor	Re	32-08	*	70	25	550
40089197	Swink-Hollywood	SwE	38-05	*	*	*	*
40089215	Cahaba	CbD	31-08	22	50	18	400
McIntosh County							
40091004	Enders-Hector	17	26-26	*	*	*	*
40091017	Endsaw-Hector	18	33-07	*	*	*	*
40091051	Karma	30	52-28	*	*	*	*
40091059	Taloka	52	02-10	35	60	30	*
40091066	Dennis	12	45-01	35	60	30	*
Mayes County							
40097029	Parsons	PaA	39-35	35	50	30	450
40097050	Collinsville	CoE	35-17	*	*	*	*
40097075	Dennis	DnB	12-06	40	70	35	450

TABLE 18 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Wheat (Bu.)	Sorghum (Bu.)	Soybeans (Bu.)	Cotton (Lb.)
Muskogee County							
40101008	Oktaha	47	26-13	25	55	25	*
40101021	Kiomatia	31	65-11	*	*	*	*
40101028	Bates-Coweta	6	53-29	25	*	*	*
40101048	Endsaw-Hector	19	66-29	*	*	*	*
40101068	Dennis	12	30-19	35	60	30	375
40101070	Taloka	70	15-30	35	60	30	*
Ottawa County							
40115049	Parsons	PaB	07-31	35	50	25	450
Pittsburg County							
40121002	Enders-Hectors	EhE	29-13	*	*	*	*
40121003	Enders-Hectors	EhE	38-36	*	*	*	*
40121005	Enders-Hectors	EhE	28-18	*	*	*	*
40121016	Enders-Hectors	EhE	91-05	*	*	*	*
40121028	Enders-Hectors	EhF	(09-10)-11	*	*	*	*
40121029	Talahina-Collinsville	TcE	(17-18)-26	*	*	*	*
40121045	Enders-Hectors	EhE	90-06	*	*	*	*
40121046	Hartsells	HaC	82-29	*	46	24	400
40121054	Hect-Hartsells	HhC	17-29	*	20	*	*
40121069	Enders-Hectors	EhF	(106-7)-29	*	*	*	*
40121074	Enders-Hectors	EhE	23-08	*	*	*	*
40121078	Enders-Hectors	EhE	43-17	*	*	*	*
Pushmataha County							
40127008	Tuskahoma	55	07-16	*	*	*	*
40127010	Carnasaw	11	12-25	*	*	*	*
40127040	Sherwood	50	76-24	*	*	*	*
40127056	Guyton	25	10-26	20	30	20	*
40127072	Carnasaw	11	51-29	*	*	*	*
40127078	Dela	22	10-29	*	*	*	*
40127100	Carnasaw	11	23-28	*	*	*	*
40127140	Clebit-Pirum	19	48-29	*	*	*	*
40127149	Clebit-Pirum	19	48-25	*	*	*	*

TABLE 18 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Wheat (Bu.)	Sorghum (Bu.)	Soybeans (Bu.)	Cotton (Lb.)
Sequoyah	County						
40135005	Hectors-Linker-Enders	HeF	47-15	20	30	15	*
40135024	Hectors-Linker-Enders	HeF	16-34	20	30	15	*
40135025	Hectors-Linker-Enders	HeF	07-10	20	30	15	*
40135026	Hectors-Linker-Enders	HeF	07-(8-9)	20	30	15	*
40135027	Hectors-Linker-Enders	HeF	16-30	20	30	15	*
40135031	Linker-Hector	LnC	53-20	21	30	20	380
40135032	Stigler	SrB	53-32	28	42	26	500
10135033	Linker-Hector	LoD	60-08	*	*	*	*
40135040	Hectors-Linker-Enders	HeF	15-35	20	30	15	*
40135047	Stigler	SrB	51-20	28	42	26	500
40135049	Hectors-Linker-Enders	HeF	51-35	20	30	15	*
40135061	Hectors-Linker-Enders	HeF	50-32	20	30	15	*
40135063	Lonoke	LsA	41-14	36	55	35	625
40135065	Hectors-Linker-Enders	HeF	32-33	20	30	15	*
40135067	Hectors-Linker-Enders	HeF	12-26	20	30	15	*
40135068	Hectors-Linker-Enders	HeF	03-14	20	30	15	*
40135069	Hectors-Linker-Enders	HeF	02-17	20	30	15	*
40135080	Hectors-Linker-Enders	HeF	01-16	20	30	15	*
40135081	Rosebloom	Rs	10-28	24	33	22	350

TABLE 19

OKLAHOMA PRODUCTIVITY MEASURES FOR PASTURE AND TIMBER

Plot ID	Soil Type	Soil #	Map Index -Section	Pasture (A.U.M.)	Site Index
Adair County					
40001009	Bodine	BoE	23-19	*	48
40001029	Hector	Hc	48-36	4.0	45
40001026	Hector	Hc	38-25	4.0	45
Atoka County					
40005005	Carnasaw	22	10-10	3.5	60
40005026	Parsons	57	5-29	6.0	*
40005029	Carnasaw	22	21-14	3.5	60
40005052	Eram	40	14-26	3.5	*
40005054	Carnasaw	22	25-36	3.5	60
40005058	Larue	54	57-25	6.0	60
40005065	Carnasaw	22	40-29	3.5	60
40005071	Eram	40	7-06	3.5	60
40005079	Kaufman	50	63-09	7.5	90
40005083	Bosville	17	55-22	5.5	60
40005086	Eram	38	30-08	5.0	60
40005098	Dennis	31	29-18	7.0	*
Bryan County					
40013013	Bernow	8	14-34	5.5	60
40013020	Muskogee	58	47-30	6.5	70
40013028	Parsons	67	21-04	6.0	*
40013046	Dennis	25	20-02	6.5	*
40013092	Dennis	24	26-34	7.0	*
Cherokee County					
40021004	Clarksville	ClF	82-34	4.5	50
40021014	Talpa-Rock	TrF	117-17	*	*
40021015	Hector-Linker	HlE	113-30	5.0	45
40021025	Clarksville	ClF	66-11	4.5	40

TABLE 19 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Pasture (A.U.M.)	Site Index
40021038	Hector-Linker	HlE	116-16	5.0	40
40021044	Eldorado	EdC	86-09	5.5	*
40021048	Clarksville	CkD	65-09	4.5	50
40021063	Hector-Linker	HlE	111-26	5.0	40
40021064	Okemah	OkA	103-35	6.0	*
40021080	Hector-Linker	HlE	96-04	5.0	40
40021085	Hector-Linker	HlE	83-11	5.0	40
Choctaw County					
40023015	Whakana	59	59-33	7.0	70
40023023	Tenaha	51	29-04	7.0	70
40023031	Muskogee	36	48-05	7.0	70
40023062	Durant	17	25-12	6.5	70
40023063	Bosville	11	35-25	6.0	60
40023090	Bernow	4	32-26	5.0	60
Coal County					
40029013	Homa	HoE	07-23	2.7	55
40029031	Homa	HoE	27-26	2.7	55
40029036	Lanton	Lc	27-30	3.0	*
40029045	Parson	PaB	37-34	6.0	*
40029046	Talpa-Rock	TrE	31-31	*	*
Delaware County					
40041003	Clarksville	ClF	56-09	4.5	50
40041017	Dennis	DnB	14-11	6.0	*
40041019	Baxter	BhB	24-02	5.0	55
40041034	Baxter	BhB	23-06	5.0	55
40041036	Clarksville	ClE	13-(6-7)	4.5	50
40041042	Clarksville	ClF	28-27	4.5	50
40041048	Baxter-Locust	BlC	60-35	5.0	55
40041057	Clarksville	ClE	12-18	4.5	50
Haskell County					

TABLE 19 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Pasture (A.U.M.)	Site Index
40061010	Liberal-Spiro	LcC	32-35	6.0	60
40061018	Porum	PoC2	5-34	5.5	56
40061023	Liberal & Collinsville	LdE	23-08	6.0	60
40061030	Hector-Linker	HlC	38-15	5.0	45
40061033	Hector-Linker	HlC	14-27	5.0	45
40061047	Hector	HcD	29-33	4.0	45
40061053	Liberal-Spiro	LcC	42-29	6.0	60
40061054	Spiro	SnC	48-05	6.0	60
40061056	Enders-Hector	EhE	48-11	4.0	56
40061062	Stigler	SrB	19-08	7.0	56
40061070	Sallisaw	SfB	18-10	7.5	66
Latimer County					
40077030	Yanush	3	40-31	*	50
40077039	Carnasaw	8	02	3.5	60
40077053	Carnasaw	8	09-20	3.5	60
40077054	Carnasaw	8	04-09	3.5	60
Le Flore County					
40079007	Pirum-Clebit	51	37-01	6.0	60
40079024	Pirum-Clebit	51	71-34	6.0	60
40079034	Cowton	21	27-12	4.5	*
40079061	Speer	70	73-13	8.0	80
40079081	Sallisaw	59	26-05	7.0	70
40079093	Octavia	53	76-28	*	60
40079094	Octavia	53	79-16	*	60
40079125	Bengal	2	49-19	*	50
40079126	Carnasaw	7	57-20	3.5	60
40079127	Carnasaw	6	61-33	3.5	60
40079170	Carnasaw	6	48-24	3.5	60
McCurtain County					
40089015	Ruston	RuD	47-05	6.0	80
40089018	Felker	FeA	55-09	5.0	90

TABLE 19 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Pasture (A.U.M.)	Site Index
40089019	Sumter	SuE	*	*	*
40089025	Kinta	KnA	51-31	4.5	80
40089056	Felker	FeA	50-36	5.0	90
40089098	Pledger	Pg	49-31	5.0	90
40089119	Goldston-Carnasaw-Sceul	GsF	03-17	4.0	70
40089167	Tiak-Ruston	TkC	39-17	5.0	80
40089196	Rexor	Re	32-08	5.5	90
40089197	Swink-Hollywood	SwE	38-05	*	*
40089215	Cahaba	CbD	31-08	6.0	80
McIntosh County					
40091004	Enders-Hector	17	26-26	*	40
40091017	Endsaw-Hector	18	33-07	*	40
40091051	Karma	30	52-28	4.0	*
40091059	Taloka	52	02-10	7.0	*
40091066	Dennis	12	45-01	7.0	*
Mayes County					
40097029	Parsons	PaA	39-35	6.0	*
40097050	Collinsville	CoE	35-17	*	*
40097075	Dennis	DnB	12-06	7.0	*
Muskogee County					
40101008	Oktaha	47	26-13	6.5	*
40101021	Kiomatia	31	65-11	5.0	*
40101028	Bates-Coweta	6	53-29	5.0	*
40101048	Endsaw-Hector	19	66-29	*	40
40101068	Dennis	12	30-19	7.0	*
40101070	Taloka	70	15-30	7.0	*
Ottawa County					
40115049	Parsons	PaB	07-31	5.5	*
Pittsburg County					

TABLE 19 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Pasture (A.U.M.)	Site Index
40121002	Enders-Hectors	EhE	29-13	4.0	40
40121003	Enders-Hectors	EhE	38-36	4.0	40
40121005	Enders-Hectors	EhE	28-18	4.0	40
40121016	Enders-Hectors	EhE	91-05	4.0	40
40121028	Enders-Hectors	EhF	(09-10)-11	4.0	40
40121029	Talahina-Collinsville	TcE	(17-18)-26	*	*
40121045	Enders-Hectors	EhE	90-06	4.0	40
40121046	Hartsells	HaC	82-29	5.0	58
40121054	Hect-Hartsells	HhC	17-29	3.8	49
40121069	Enders-Hectors	EhF	(106-7)-29	4.0	40
40121074	Enders-Hectors	EhE	23-08	4.0	40
40121078	Enders-Hectors	EhE	43-17	4.0	40
Pushmataha County					
40127008	Tuskahoma	55	07-16	4.0	50
40127010	Carnasaw	11	12-25	3.5	70
40127040	Sherwood	50	76-24	5.5	70
40127056	Guyton	25	10-26	6.5	90
40127072	Carnasaw	11	51-29	3.5	70
40127078	Dela	22	10-29	7.0	80
40127100	Carnasaw	11	23-28	3.5	70
40127140	Clebit-Pirum	19	48-29	*	60
40127149	Clebit-Pirum	19	48-25	*	60
Sequoyah County					
40135005	Hectors-Linker-Enders	HeF	47-15	5.0	54
40135024	Hectors-Linker-Enders	HeF	16-34	5.0	54
40135025	Hectors-Linker-Enders	HeF	07-10	5.0	54
40135026	Hectors-Linker-Enders	HeF	07-(8-9)	5.0	54
40135027	Hectors-Linker-Enders	HeF	16-30	5.0	54
40135031	Linker-Hector	LnC	53-20	6.5	54
40135032	Stigler	SrB	53-32	7.2	*
10135033	Linker-Hector	LoD	60-08	4.4	54

TABLE 19 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Pasture (A.U.M.)	Site Index
40135040	Hectors-Linker-Enders	HeF	15-35	5.0	54
40135047	Stigler	SrB	51-20	7.2	*
40135049	Hectors-Linker-Enders	HeF	51-35	5.0	54
40135061	Hectors-Linker-Enders	HeF	50-32	5.0	54
40135063	Lonoke	LsA	41-14	10.0	83
40135065	Hectors-Linker-Enders	HeF	32-33	5.0	54
40135067	Hectors-Linker-Enders	HeF	12-26	5.0	54
40135068	Hectors-Linker-Enders	HeF	03-14	5.0	54
40135069	Hectors-Linker-Enders	HeF	02-17	5.0	54
40135080	Hectors-Linker-Enders	HeF	01-16	5.0	54
40135081	Rosebloom	Rs	10-28	5.3	73

TABLE 20

OKLAHOMA PLOT CHANGES BY COUNTY AND NUMBER OF PLOTS PER COUNTY, 1966 TO 1976

County	Number of Plots Changes	Number of Plots Per County
Adair	3	39
Atoka	12	53
Bryan		15
Cherokee	5	44
Choctaw	17	49
Coal	10	16
Delaware	9	41
Haskell	3	23
Latimer	3	50
Le Flore	17	118
Mayes	4	20
McCurtain	17	167
McIntosh	5	20
Muskogee	1	19
Ottawa	6	14
Pittsburg	9	36
Pushmataha	12	131
Sequoyah	6	21
Total	**139**	**876**

Table 21

OKLAHOMA PLOT CHANGES BY CATEGORY, 1966 TO 1976

Category	Number of Plots
Reserved Timberland to Timberland	0
Pasture to Timberland	0
Idle Farmland to Timberland	9
Other Farmland to Timberland	15
Urban & Other Uses to Timberland	3
Woodland to Timberland	0
Census Water to Timberland	0
Noncensus Water to Timberland	0
Timberland to Reserved Timberland	1
Timberland to Pasture	92
Timberland to Idle Farmland	6
Timberland to Other Farmland	0
Timberland to Urban & Other Uses	6
Timberland to Woodland	0
Timberland to Census Water	5
Timberland to NonCensus Water	2
Total	**139**

TABLE 22

OKLAHOMA LAND CLEARINGS BY CATEGORY, 1966 TO 1976

County	Timber to Idle Farmland	Timber to Pasture	Timber to Other Farmland	Timber to Urban & Other	Timber to Census Water	Timber to Woodland	Timber to Noncensus Water	Timber to Reserve Timber
Adair	(6,100)	(12,200)	0	0	0	0	0	0
Atoka	0	(53,600)	0	0	0	0	0	0
Bryan	0	0	0	0	0	0	0	0
Cherokee	(6,100)	(12,200)	0	0	0	0	0	0
Choctaw	(11,600)	(52,000)	0	0	(5,800)	0	(5,800)	0
Coal	0	(57,600)	0	(7,200)	0	0	0	0
Delaware	(49,600)	0	0	(6,200)	0	0	0	0
Haskell	0	(5,800)	0	0	0	0	(5,800)	0
Latimer	0	(18,300)	0	0	0	0	0	0
Le Flore	(5,800)	(58,000)	0	0	(5,800)	0	0	(5800)
McCurtain	0	(53,000)	0	(10,600)	(15,900)	0	0	0
McIntosh	0	(21,600)	0	0	0	0	0	0
Mayes	0	(17,700)	0	(5,900)	0	0	0	0
Muskogee	(4,100)	0	0	0	0	0	0	0
Ottawa	0	(33,600)	0	0	0	0	0	0
Pittsburg	0	(44,800)	0	0	0	0	0	0
Pushmataha	0	(33,000)	0	(5,500)	0	0	0	0
Sequoyah	0	(29,000)	0	0	0	0	0	0
Total	(83,300)	(502,600)	0	(35,400)	(27,500)	0	(11,600)	(5800)
Total Loss	(666,200)							
% of Loss	12.5	75.4	0	5.3	4.1	0.0	1.7	0.9

TABLE 23

OKLAHOMA REVERSION TO TIMBERLAND BY CATEGORY, 1966 TO 1976

County	Improved Pasture to Timber	Idle Farmland to Timber	Other Farmland to Timber	Urban & Other to Timber	Reserved Timber to Timber	Census Water to Timber	Woodland to Timber
Adair	0	0	0	0	0	0	0
Atoka	0	0	24,000	0	0	0	0
Bryan	0	0	0	0	0	0	0
Cherokee	0	5,700	5,700	0	0	0	0
Choctaw	0	13,500	4,500	0	0	0	0
Coal	0	0	0	7,000	0	0	0
Delaware	0	0	0	0	0	0	0
Haskell	0	0	5,500	0	0	0	0
Latimer	0	0	0	0	0	0	0
Le Flore	0	0	16,500	5,500	0	0	0
McCurtain	0	10,800	0	0	0	0	0
McIntosh	0	5,500	0	0	0	0	0
Mayes	0	0	0	0	0	0	0
Muskogee	0	0	0	0	0	0	0
Ottawa	0	0	0	0	0	0	0
Pittsburg	0	6,000	6,000	0	0	0	0
Pushmataha	0	5,700	22,800	0	0	0	0
Sequoyah	0	0	0	6,500	0	0	0
Total	0	47,200	85,000	19,000	0	0	0
Total Gain	151,200						
% of Gain	0.0	31.2	56.2	12.6	0.0	0.0	0.0

TABLE 24

OKLAHOMA NET LAND USE CHANGE BY COUNTY, 1966 TO 1976

County	County Total	Net Change
Adair	(18,300)	-0.077
Atoka	(29,600)	-0.090
Bryan	0	0.000
Cherokee	(6,900)	-0.027
Choctaw	(57,400)	-0.220
Coal	(57,800)	-0.535
Delaware	(55,800)	-0.220
Haskell	(6,100)	-0.048
Latimer	(18,300)	-0.060
Le Flore	(53,400)	-0.081
McCurtain	(68,700)	-0.079
McIntosh	(16,100)	-0.157
Mayes	(23,600)	-0.200
Muskogee	(4,100)	-0.053
Ottawa	(33,600)	-0.429
Pittsburg	(32,800)	-0.151
Pushmataha	(10,000)	-0.014
Sequoyah	(22,500)	-0.194
State Total	(515,000)	-0.107

TABLE 25

OKLAHOMA PLOT CHANGES BY COUNTY AND NUMBER OF PLOTS PER COUNTY, 1976 TO 1986

County	Number of Plots Changes	Number of Plots Per County
Adair	3	36
Atoka	12	50
Bryan	5	19
Cherokee	11	46
Choctaw	6	39
Coal	5	9
Delaware	8	36
Haskell	11	31
Latimer	4	49
Le Flore	11	111
Mayes	3	19
McCurtain	11	159
McIntosh	5	17
Muskogee	6	22
Ottawa	1	9
Pittsburg	13	34
Pushmataha	9	126
Sequoyah	19	35
Total	**143**	**847**

TABLE 26

OKLAHOMA PLOT CHANGES BY CATEGORY, 1976 TO 1986

Changes	Number of Plots
Reserved Timberland to Timberland	2
Pasture to Timberland	40
Idle Farmland to Timberland	16
Other Farmland to Timberland	1
Urban & Other Uses to Timberland	2
Woodland to Timberland	24
Census Water to Timberland	1
Noncensus Water to Timberland	0
Timberland to Reserved Timberland	0
Timberland to Pasture	32
Timberland to Idle Farmland	0
Timberland to Other Farmland	1
Timberland to Urban & Other Uses	12
Timberland to Woodland	11
Timberland to Census Water	1
Timberland to Noncensus Water	0
Total	**143**

TABLE 27

OKLAHOMA LAND CLEARINGS BY CATEGORY, 1976 TO 1986

County	Timber to Pasture	Timber to Other Farmland	Timber to Urban & Other	Timber to Census Water	Timber to Woodland
Adair	(12,000)	0	(6,000)	0	0
Atoka	(24,000)	0	0	0	(12,000)
Bryan	0	0	0	0	0
Cherokee	(16,692)	(5,564)	(11,128)	0	0
Choctaw	(9,000)	0	0	0	(4,500)
Coal	(21,000)	0	0	0	0
Delaware	(12,200)	0	(12,200)	0	0
Haskell	0	0	0	0	(5,500)
Latimer	(6,000)	0	(6,000)	0	0
Le Flore	(11,000)	0	(11,000)	0	(5,500)
McCurtain	(10,800)	0	(5,400)	0	0
McIntosh	(22,000)	0	0	0	0
Mayes	0	0	0	0	0
Muskogee	(4,600)	0	0	0	(4,600)
Ottawa	0	0	0	0	0
Pittsburg	(12,000)	0	(6,000)	0	(30,000)
Pushmataha	(22,800)	0	(11,400)	(5,700)	0
Sequoyah	0	0	0	0	0
Total	(184,092)	(5,564)	(69,128)	(5,700)	(62,100)
Total Loss	326,584				
% of Loss	56.4	1.7	21.2	1.7	19.0

TABLE 28

OKLAHOMA REVERSION TO TIMBERLAND
BY CATEGORY, 1976 TO 1986

County	Improved Pasture to Timber	Idle Farmland to Timber	Other Farmland to Timber	Urban & Other to Timber	Reserved Timber to Timber	Census Water to Timber	Woodland to Timber
Adair	0	0	0	0	0	0	0
Atoka	19,086	0	6,362	0	0	0	12,724
Bryan	28,336	0	0	0	0	0	7,084
Cherokee	6,448	0	0	0	0	0	25,792
Choctaw	13,701	0	0	0	0	0	0
Coal	12,724	0	0	0	0	0	0
Delaware	26,360	0	0	0	0	0	0
Haskell	20,440	15,330	0	0	0	5,110	10,220
Latimer	0	0	0	0	6,494	0	6,494
Le Flore	18,108	12,072	0	0	6,036	0	0
McCurtain	22,524	11,262	0	5,631	0	0	5,631
McIntosh	0	6,362	0	0	0	0	0
Mayes	6,868	6,868	0	6,868	0	0	0
Muskogee	10,250	10,250	0	0	0	0	0
Ottawa	0	6,590	0	0	0	0	0
Pittsburg	20,469	6,823	0	0	0	0	6,823
Pushmataha	5,967	0	0	0	0	0	5,967
Sequoyah	30,970	18,582	0	0	0	0	68,134
Total	242,251	94,139	6,362	12,499	12,530	5,110	148,869
Total Loss	521,760						
% of Gain	46.4	18.0	1.2	2.4	2.4	1.0	28.5

TABLE 29

OKLAHOMA NET LAND USE CHANGE BY COUNTY, 1976 TO 1986

County	Net Total	Change
Adair	(18,000)	-0.083
Atoka	2,172	0.008
Bryan	35,420	0.400
Cherokee	(1,144)	-0.005
Choctaw	201	0.001
Coal	(8,276)	-0.169
Delaware	1,960	0.010
Haskell	45,600	0.395
Latimer	988	0.004
Le Flore	8,716	0.015
McCurtain	28,848	0.035
McIntosh	(15,638)	-0.178
Mayes	20,604	0.208
Muskogee	11,300	0.136
Ottawa	6,590	0.113
Pittsburg	(13,885)	-0.080
Pushmataha	(27,966)	-0.040
Sequoyah	117,686	1.132
State Total	195,176	0.045

TABLE 30

OKLAHOMA AVERAGE PRODUCTIVITY
MEASURES BY CATEGORY

Categories	Site Index	Pasture (A.U.M.)	Wheat (Bu.)	Sorghum (Bu.)	Soybeans (Bu.)	Cotton (Lb.)
Woodland to Timberland	54.90					
Reserved Timberland to Timberland	60.00					
Improved Pasture to Timberland	58.61	5.08				
Idle Farmland to Timberland	61.27	5.31	27.26	46.24	23.60	411.24
Other Farmland to Timberland	90.00	7.50	35.00	70.00	35.00	500.00
Urban & Other Uses to Timberland	70.00					
Census Water to Timberland	66.00					
Weighted Average for Reversions	**58.67**	**5.17**	**27.96**	**48.22**	**24.62**	**421.98**
Timberland to Woodland	49.04					
Timberland to Improved Pasture	59.24	3.93				
Timberland to Other Farmland	40.00	4.50	15.00	42.00	14.00	0.00
Timberland to Urban & Other Uses	54.36					
Timberland to Census Water	80.00					
Weighted Average for Land Clearings	**56.07**	**3.95**	**15.00**	**42.00**	**14.00**	**0.00**

TABLE 31

STUDENT'S *t'* FOR AVERAGE PRODUCTIVITY MEASUREMENTS BY LAND USE AND BY LAND USE CATEGORY FOR OKLAHOMA

Student's *t'* for Site Indices Measurements

Categories	Student's t'	df
Woodland-Timberland	0.01683	15.52
Improved Pasture-Timberland	-0.00243	41.91
Urban & Other Uses-Timberland	0.01893	N/A*
Reversions vs Land Clearings	0.01318	90.21

Student's *t* for Pasture Measurements

Categories	Student's t'	df
Improved Pasture-Timberland	0.00808	55.30
Reversions vs Land Clearings	0.01952	62.09

Student's *t* for Wheat Measurements for Oklahoma

Categories	Student's t'	df
Reversions vs Land Clearings	0.06973	N\A

Student's *t* for Sorghum Measurements

Categories	Student's t'	df
Reversions vs Land Clearings	0.01833	N\A

Student's *t* for Soybeans Measurements

Categories	Student's t'	df
Reversions vs Land Clearings	0.05664	N/A

*N/A -- Insufficient number of observations to calculate degrees of freedom.

TABLE 32

NET PERIODIC VOLUME OF POTENTIAL
TIMBER GROWTH FOR OKLAHOMA
LAND USE CHANGES

Shortleaf Pine	Site Index	Average[2] Yearly Growth per acre (Cu.ft.)	Net Land Use Change (Acres)	Net Periodic[3] Volume of Potential Growth (Cu.ft.)
Woodland to Timberland	54.90	68	148,869	10,123,092
Reserved Timberland to Timberland	60.00	88	12,530	1,102,640
Improved Pasture to Timberland	58.61	88	242,251	21,318,088
Idle Farmland to Timberland	61.27	88	94,139	8,284,232
Other Farmland to Timberland	90.00	150	6,362	954,300
Urban & Other Uses to Timberland	70.00	110	12,499	1,374,890
Census Water to Timberland	66.00	110	5,110	562,100
Total Reversions			521,760	43,719,342
Timberland to Woodland	49.04	68	62,100	4,222,800
Timberland to Improved Pasture	59.24	88	184,092	16,200,096
Timberland to Other Farmland	40.00	47	5,564	261,508
Timberland to Urban & Other Uses	54.36	68	69,128	4,700,704
Timberland to Census Water	80.00	130	5,700	741,000
Total Land Clearings			326,584	26,126,108

[2]Based on mean annual increment at full stocking.
From USDA Miscellaneous Publication No. 50, Table 104, pg.124

[3]Net land use change multiplied by average yearly growth per acre.

TABLE 33

NET CHANGE IN VOLUME OF POTENTIAL TIMBER GROWTH FOR OKLAHOMA, BY CATEGORY

	Volume of[4] Potential Growth (Cu.ft.)	Potential[5] Volume per year	Potential[6] Volume per acre
Woodland to Timberland	5,900,292	590,029	68
Reserved Timberland to Timberland	1,102,640	110,264	88
Improved Pasture to Timberland	5,117,992	511,799	88
Idle Farmland to Timberland	8,284,232	828,423	88
Other Farmland to Timberland	692,792	69,279	58
Urban & Other Uses to Timberland	(3,325,814)	(332,581)	59
Census Water to Timberland	(178,900)	(17,890)	17
Net Gain in Productivity	17,593,234	1,759,323	90

[4]Net periodic volume of potential growth (cu. ft.) of total reversions minus net periodic volume of potential growth (cu. ft.) of land clearings

[5]Volume of potential growth (cu. ft.) divided by years in time period (10 years).

[6]Volume of potential growth divided the net land use change (acres) for the respective categories.

TABLE 34

VOLUME DISTRIBUTION OF ROUNDWOOD TIMBER PRODUCTS FOR OKLAHOMA IN 1984 (PERCENT OF ALL TIMBER PRODUCTS)

Category	Percent Softwoods	Percent Hardwoods	Percent of All Products
Sawlogs	70	30	42
Veneer Logs	1	0	6
Pulpwood	79	21	24
Fuelwood	2	98	16
Other Industrial Products	97	3	12

TABLE 35

TOTAL VOLUME OF POTENTIAL TIMBER GROWTH PER YEAR BY TIMBER PRODUCTS CATEGORY FOR OKLAHOMA

	Cubic Feet of Wood		
Category	Potential Growth Softwoods	Potential Growth Hardwoods	Potential Growth All Products
Sawlogs	520,946	217,969	738,916
Veneer Logs	105,559	0	105,559
Pulpwood	333,912	88,325	422,238
Fuelwood	4,398	277,093	281,492
Other Industrial Products	204,308	6,810	211,119
Total	1,169,125	590,198	1,759,323

TABLE 36

OKLAHOMA TIMBER PRICE PER CUBIC FOOT

Category	Price Softwoods	Price Hardwoods	Price All Products
Sawlogs	$0.75	$0.66	$0.73
Veneer Logs	$0.98	$0.98	$0.98
Pulpwood	$0.37	$0.32	$0.36
Fuelwood	$0.66	$0.66	$0.66
Other Industrial Products	$0.66	$0.66	$0.66

TABLE 37

TOTAL VALUE OF POTENTIAL TIMBER GROWTH PER YEAR BY TIMBER PRODUCTS CATEGORY FOR OKLAHOMA

Category	Value Softwoods	Value Hardwoods	Value All Products
Sawlogs	$391,927	$144,732	$536,659
Veneer Logs	$103,093	0	$103,093
Pulpwood	$123,913	$28,637	$152,549
Fuelwood	$2,291	$184,007	$186,928
Other Industrial Products	$134,614	$4,487	$139,102
Total	$1,169,125	$391,892	$1,148,360

TABLE 38

TOTAL EFFECTS ON OKLAHOMA ECONOMY

	Industry	Final Demand (MM$)	TIO (MM$)	Employment (Number of Jobs)
1	LVSTK & LVSTK PRODUCTS	.0015	.0047	.10
10	OTHER AG. PRODUCTS	.0010	.0030	.07
24	FORESTRY PRODUCTS	.0000	.0000	.00
26	AG, FORESTRY, AND FISHERY	.0001	.0026	.07
34	MINING, MINERALS & GRAVEL	.0034	.0136	.05
48	NEW CONSTRUCTION	.0000	.0000	.00
55	MAINTENANCE AND REPAIR	.0000	.0318	.79
58	FOOD & KINDRED PRODUCTS	.0137	.0162	.08
104	TOBACCO	.0000	.0000	.00
108	TEXTILE MANUFACTURING	.0068	.0073	.12
133	SAWLOGS	.6305	.7414	.43
137	VENEER LOGS	.0045	.0049	.09
141	OTH INDUSTRIAL PRODUCTS	.1321	.1373	.41
147	WOOD PRODUCTS, N.E.C	.1562	.1581	.91
148	HOUSEHOLD FURNITURE	.0015	.0016	.02
154	OTHER FURNITURE	.0045	.0047	.06
162	PULP PRODUCTS	.1618	.1682	.60
174	PRINTING & PUBLISHING	.0009	.0127	.17
187	CHEMICALS	.0015	.0158	.07
210	PETROLEUM REFINING	.0145	.0476	.04
215	RUBBER PRODUCTS	.0108	.0115	.10
221	LEATHER PRODUCTS	.0005	.0006	.01
230	GLASS PRODUCTS	.0045	.0063	.06
232	STONE & CLAY PRODUCTS	.0091	.0093	.10
254	PRIMARY METAL MAN.	.0003	.0010	.01
273	OTHER METAL PRODUCTS	.0025	.0060	.06
307	ENGINES	.0001	.0006	.00
309	FARM MACHINERY & EQUIP.	.0001	.0001	.00
311	CONST. & MAINT. EQUIP.	.0000	.0003	.00
314	HANDLING EQUIPMENT	.0000	.0003	.00
318	METAL WORKING EQUIP.	.0000	.0004	.01
328	SPECIAL IND. EQUIP.	.0001	.0006	.00
332	GENERAL IND. EQUIP.	.0000	.0005	.00
339	OFFICE EQUIPMENT	.0009	.0015	.01
345	SERVICE IND. EQUIP.	.0002	.0004	.00
350	MISCELLANEOUS EQUIP.	.0000	.0001	.00
355	ELECTRIC IND. EQUIP.	.0000	.0002	.00
361	HOUSEHOLD APPLIANCES	.0000	.0000	.00
367	ELECTRIC LIGHTING	.0000	.0000	.00
370	RADIO & TV EQUIP.	.0005	.0011	.01
375	ELECTRONIC COMPONENTS	.0001	.0004	.00
379	MISC. ELECTRONIC EQUIP.	.0002	.0004	.00
384	MOTOR VEHICLE EQUIP.	.0047	.0072	.03
389	AIRCRAFT	.0001	.0007	.01
392	OTHER TRANSPORTATION	.0000	.0001	.00
400	SCIENTIFIC EQUIP.	.0009	.0036	.04
415	MISCELLANEOUS MANF.	.0023	.0029	.03
433	TRANSPORTATION	.0147	.0703	.87
441	RADIO & TV	.0225	.1093	.56
444	UTILITIES	.0042	.0220	.06
447	WHOLESALE AND RETAIL	.0958	.1448	.22
456	FINANCE & INSURANCE	.0366	.0590	.00
461	REAL ESTATE	.0833	.1028	.51

TABLE 38 (CONTINUED)

	Industry	Final Demand (MM$)	TIO (MM$)	Employment (Number of Jobs)
461	REAL ESTATE	.0833	.1028	.51
463	PERSONAL SERVICES	.0097	.0125	.52
469	OTHER SERVICES	.0025	.0353	.12
477	BUSINESS SERVICES	.0152	.0492	.00
483	AMUSEMENT	.0058	.0088	.33
490	HEALTH, ED. & SOCIAL SERV	.1168	.1375	.03
510	GOVERNMENT	.0113	.0353	.16
524	REST OF THE WORLD IND.	.0000	.0000	.00
525	HOUSEHOLD INDUSTRY-LOW	.0015	.0015	.26
528	INVENTORY VALUATION ADJ.	.0000	.0000	.00
	TOTAL	1.5930	2.2161	30.23
	Change in Population =	59.		

TABLE 39

DIRECT EFFECTS ON OKLAHOMA ECONOMY

	Industry	Final Demand (MM$)	TIO (MM$)	Employment (Number of Jobs)
1	LVSTK & LVSTK PRODUCTS	.0000	.0000	.00
10	OTHER AG. PRODUCTS	.0004	.0004	.01
24	FORESTRY PRODUCTS	.0000	.0000	.00
26	AG, FORESTRY, AND FISHERY	.0000	.0000	.00
34	MINING, MINERALS & GRAVEL	.0000	.0000	.00
48	NEW CONSTRUCTION	.0000	.0000	.00
55	MAINTENANCE AND REPAIR	.0000	.0000	.00
58	FOOD & KINDRED PRODUCT	.0000	.0000	.00
104	TOBACCO	.0000	.0000	.00
108	TEXTILE MANUFACTURING	.0001	.0001	.00
133	SAWLOGS	.6305	.6305	6.32
137	VENEER LOGS	.0045	.0045	.08
141	OTH INDUSTRIAL PRODUCTS	.1321	.1321	1.36
147	WOOD PRODUCTS, N.E.C	.1560	.1560	2.87
148	HOUSEHOLD FURNITURE	.0005	.0005	.01
154	OTHER FURNITURE	.0045	.0045	.06
162	PULP PRODUCTS	.1613	.1613	.57
174	PRINTING & PUBLISHING	.0000	.0000	.00
187	CHEMICALS	.0003	.0003	.00
210	PETROLEUM REFINING	.0000	.0000	.00
215	RUBBER PRODUCTS	.0108	.0108	.10
221	LEATHER PRODUCTS	.0003	.0003	.01
230	GLASS PRODUCTS	.0039	.0039	.04
232	STONE & CLAY PRODUCTS	.0091	.0091	.09
254	PRIMARY METAL MAN.	.0003	.0003	.00
273	OTHER METAL PRODUCTS	.0023	.0023	.02
307	ENGINES	.0000	.0000	.00
309	FARM MACHINERY AND EQUIP.	.0001	.0001	.00
311	CONST. & MAINT. EQUIP.	.0000	.0000	.00
314	HANDLING EQUIPMENT	.0000	.0000	.00
318	METAL WORKING EQUIP.	.0000	.0000	.00
328	SPECIAL IND. EQUIP.	.0001	.0001	.00
332	GENERAL IND. EQUIP.	.0000	.0000	.00
339	OFFICE EQUIPMENT	.0000	.0000	.00
345	SERVICE IND. EQUIP.	.0001	.0001	.00
350	MISCELLANEOUS EQUIP.	.0000	.0000	.00
355	ELECTRIC IND. EQUIP.	.0000	.0000	.00
361	HOUSEHOLD APPLIANCES	.0000	.0000	.00
367	ELECTRIC LIGHTING	.0000	.0000	.00
370	RADIO & TV EQUIP.	.0000	.0000	.00
375	ELECTRONIC COMPONENTS	.0000	.0000	.00
379	MISC. ELECTRONIC EQUIP.	.0000	.0000	.00
384	MOTOR VEHICLE EQUIP.	.0010	.0010	.00
389	AIRCRAFT	.0000	.0000	.00
392	OTHER TRANSPORTATION	.0000	.0000	.00
400	SCIENTIFIC EQUIP.	.0000	.0000	.00
415	MISCELLANEOUS MANF.	.0019	.0019	.02
433	TRANSPORTATION	.0000	.0000	.00
441	RADIO & TV	.0000	.0000	.00
444	UTILITIES	.0000	.0000	.00
447	WHOLESALE AND RETAIL	.0000	.0000	.00
456	FINANCE & INSURANCE	.0000	.0000	.00

TABLE 39 (CONTINUED)

	Industry	Final Demand (MM$)	TIO (MM$)	Employment (Number of Jobs)
461	REAL ESTATE	.0000	.0000	.00
463	PERSONAL SERVICES	.0000	.0000	.00
469	OTHER SERVICES	.0000	.0000	.00
477	BUSINESS SERVICES	.0000	.0000	.00
483	AMUSEMENT	.0000	.0000	.00
490	HEALTH, ED. & SOCIAL SERV	.0000	.0000	.00
510	GOVERNMENT	.0000	.0000	.00
524	REST OF THE WORLD IND.	.0000	.0000	.00
525	HOUSEHOLD INDUSTRY-LOW	.0000	.0000	.00
528	INVENTORY VALUATION ADJ.	.0000	.0000	.00
	Total	1.1200	1.1200	11.57

Change in Population = 23.

TABLE 40

INDIRECT EFFECTS ON OKLAHOMA ECONOMY

	Industry	Final Demand (MM$)	TIO (MM$)	Employment (Number of Jobs)
1	LVSTK & LVSTK PRODUCTS	.0000	.0002	.00
10	OTHER AG. PRODUCTS	.0000	.0009	.02
24	FORESTRY PRODUCTS	.0000	.0000	.00
26	AG, FORESTRY, AND FISHERY	.0000	.0008	.02
34	MINING, MINERALS & GRAVEL	.0000	.0085	.03
48	NEW CONSTRUCTION	.0000	.0000	.00
55	MAINTENANCE AND REPAIR	.0000	.0206	.51
58	FOOD & KINDRED PRODUCT	.0000	.0004	.00
104	TOBACCO	.0000	.0000	.00
108	TEXTILE MANUFACTURING	.0000	.0001	.00
133	SAWLOGS	.0000	.1107	1.11
137	VENEER LOGS	.0000	.0004	.01
141	OTH INDUSTRIAL PRODUCTS	.0000	.0051	.05
147	WOOD PRODUCTS, N.E.C	.0000	.0019	.03
148	HOUSEHOLD FURNITURE	.0000	.0001	.00
154	OTHER FURNITURE	.0000	.0001	.00
162	PULP GOODS	.0000	.0059	.02
174	PRINTING & PUBLISHING	.0000	.0084	.11
187	CHEMICALS	.0000	.0133	.06
210	PETROLEUM REFINING	.0000	.0281	.02
215	RUBBER PRODUCTS	.0000	.0007	.01
221	LEATHER PRODUCTS	.0000	.0000	.00
230	GLASS PRODUCTS	.0000	.0013	.01
232	STONE & CLAY PRODUCTS	.0000	.0002	.00
254	PRIMARY METAL MAN.	.0000	.0006	.00
273	OTHER METAL PRODUCTS	.0000	.0031	.03
307	ENGINES	.0000	.0003	.00
309	FARM MACHINERY & EQUIP.	.0000	.0000	.00
311	CONST. & MAINT. EQUIP.	.0000	.0003	.00
314	HANDLING EQUIPMENT	.0000	.0003	.00
318	METAL WORKING EQUIP.	.0000	.0004	.01
328	SPECIAL IND. EQUIP.	.0000	.0005	.00
332	GENERAL IND. EQUIP.	.0000	.0004	.00
339	OFFICE EQUIPMENT	.0000	.0002	.00
345	SERVICE IND. EQUIP.	.0000	.0001	.00
350	MISCELLANEOUS EQUIP.	.0000	.0001	.00
355	ELECTRIC IND. EQUIP.	.0000	.0002	.00
361	HOUSEHOLD APPLIANCES	.0000	.0000	.00
367	ELECTRIC LIGHTING	.0000	.0000	.00
370	RADIO & TV EQUIP.	.0000	.0004	.00
375	ELECTRONIC COMPONENTS	.0000	.0001	.00
379	MISC. ELECTRONIC EQUIP.	.0000	.0001	.00
384	MOTOR VEHICLE EQUIP.	.0000	.0017	.01
389	AIRCRAFT	.0000	.0004	.00
392	OTHER TRANSPORTATION	.0000	.0000	.00
400	SCIENTIFIC EQUIP.	.0000	.0010	.01
415	MISCELLANEOUS MANF.	.0000	.0004	.01
433	TRANSPORTATION	.0000	.0500	.62
441	RADIO & TV	.0000	.0742	.38
444	UTILITIES	.0000	.0151	.04
447	WHOLESALE AND RETAIL	.0000	.0436	1.57
456	FINANCE & INSURANCE	.0000	.0126	.21

TABLE 40 (CONTINUED)

	Industry	Final Demand (MM$)	TIO (MM$)	Employment (Number of Jobs)
461	REAL ESTATE	.0000	.0066	.03
463	PERSONAL SERVICES	.0000	.0016	.07
469	OTHER SERVICES	.0000	.0200	.63
477	BUSINESS SERVICES	.0000	.0241	.49
483	AMUSEMENT	.0000	.0016	.06
490	HEALTH, ED. & SOCIAL SERV	.0000	.0142	.31
510	GOVERNMENT	.0000	.0181	.60
524	REST OF THE WORLD IND.	.0000	.0000	.00
525	HOUSEHOLD INDUSTRY-LOW	.0000	.0000	.00
528	INVENTORY VALUATION ADJ.	.0000	.0000	.00
	TOTAL	.0000	.5002	7.15
	Change in Population =	14.		

TABLE 41

INDUCED EFFECTS ON OKLAHOMA ECONOMY

	Industry	Final Demand (MM$)	TIO (MM$)	Employment (Number of Jobs)
1	LVSTK & LVSTK PRODUCTS	.0015	.0046	.10
10	OTHER AG. PRODUCTS	.0006	.0017	.04
24	FORESTRY PRODUCTS	.0000	.0000	.00
26	AG, FORESTRY, AND FISHERY	.0001	.0018	.05
34	MINING, MINERALS & GRAVEL	.0034	.0052	.02
48	NEW CONSTRUCTION	.0000	.0000	.00
55	MAINTENANCE AND REPAIR	.0000	.0112	.28
58	FOOD & KINDRED PRODUCTS	.0137	.0158	.08
104	TOBACCO	.0000	.0000	.00
108	TEXTILE MANUFACTURING	.0067	.0071	.12
133	SAWLOGS	.0000	.0001	.00
137	VENEER LOGS	.0000	.0000	.00
141	OTH INDUSTRIAL PRODUCTS	.0000	.0001	.00
147	WOOD PRODUCTS, N.E.C	.0002	.0002	.00
148	HOUSEHOLD FURNITURE	.0010	.0010	.01
154	OTHER FURNITURE	.0000	.0000	.00
162	PULP PRODUCTS	.0005	.0009	.00
174	PRINTING & PUBLISHING	.0009	.0043	.06
187	CHEMICALS	.0012	.0023	.01
210	PETROLEUM REFINING	.0145	.0195	.02
215	RUBBER PRODUCTS	.0000	.0001	.00
221	LEATHER PRODUCTS	.0003	.0003	.01
230	GLASS PRODUCTS	.0006	.0011	.01
232	STONE & CLAY PRODUCTS	.0000	.0000	.00
254	PRIMARY METAL MAN.	.0000	.0001	.00
273	OTHER METAL PRODUCTS	.0002	.0006	.01
307	ENGINES	.0001	.0003	.00
309	FARM MACHINERY & EQUIP.	.0000	.0000	.00
311	CONST. & MAINT. EQUIP.	.0000	.0001	.00
314	HANDLING EQUIPMENT	.0000	.0000	.00
318	METAL WORKING EQUIP.	.0000	.0000	.00
328	SPECIAL IND. EQUIP.	.0000	.0001	.00
332	GENERAL IND. EQUIP.	.0000	.0000	.00
339	OFFICE EQUIPMENT	.0009	.0013	.01
345	SERVICE IND. EQUIP.	.0001	.0002	.00
350	MISCELLANEOUS EQUIP.	.0000	.0000	.00
355	ELECTRIC IND. EQUIP.	.0000	.0001	.00
361	HOUSEHOLD APPLIANCES	.0000	.0000	.00
367	ELECTRIC LIGHTING	.0000	.0000	.00
370	RADIO & TV EQUIP.	.0005	.0007	.01
375	ELECTRONIC COMPONENTS	.0001	.0003	.00
379	MISC. ELECTRONIC EQUIP.	.0002	.0002	.00
384	MOTOR VEHICLE EQUIP.	.0037	.0045	.02
389	AIRCRAFT	.0001	.0003	.00
392	OTHER TRANSPORTATION	.0000	.0000	.00
400	SCIENTIFIC EQUIP.	.0009	.0026	.03
415	MISCELLANEOUS MANF.	.0004	.0006	.01
433	TRANSPORTATION	.0147	.0202	.25
441	RADIO & TV	.0225	.0351	.18
444	UTILITIES	.0042	.0068	.02
447	WHOLESALE AND RETAIL	.0958	.1011	3.65
456	FINANCE & INSURANCE	.0366	.0464	.78

TABLE 41 (CONTINUED)

Industry	Final Demand (MM$)	TIO (MM$)	Employment (Number of Jobs)
461 REAL ESTATE	.0833	.0963	.48
463 PERSONAL SERVICES	.0097	.0109	.45
469 OTHER SERVICES	.0025	.0153	.48
477 BUSINESS SERVICES	.0152	.0251	.51
483 AMUSEMENT	.0058	.0072	.27
490 HEALTH, ED. & SOCIAL SERV	.1168	.1232	2.71
510 GOVERNMENT	.0113	.0171	.56
524 REST OF THE WORLD IND.	.0000	.0000	.00
525 HOUSEHOLD INDUSTRY-LOW	.0015	.0015	.26
528 INVENTORY VALUATION ADJ.	.0000	.0000	.00
Total	.4730	.5958	11.50

Change in Population = 22.

APPENDIX B

MISSISSIPPI TABLES

TABLE 42

MISSISSIPPI PLOTS CHANGES BY COUNTY, 1967 TO 1977

Plot ID	Co	Ground Use 1977	Ground Use 1967
Adams County			
28001034	1	67 URBAN & OTHER	20 TIMBERLAND
28001038	1	62 IMPROVED PASTURE	20 TIMBERLAND
28001046	1	61 CROPLAND	20 TIMBERLAND
28001048	1	61 CROPLAND	20 TIMBERLAND
Alcorn County			
28003006	3	62 IMPROVED PASTURE	20 TIMBERLAND
28003010	3	67 URBAN & OTHER	20 TIMBERLAND
28003030	3	61 CROPLAND	20 TIMBERLAND
28003032	3	62 IMPROVED PASTURE	20 TIMBERLAND
28003040	3	62 IMPROVED PASTURE	20 TIMBERLAND
28003044	3	62 IMPROVED PASTURE	20 TIMBERLAND
Amite County			
28005025	5	62 IMPROVED PASTURE	20 TIMBERLAND
28005050	5	62 IMPROVED PASTURE	20 TIMBERLAND
28005060	5	20 TIMBERLAND	66 OTHER FARMLAND
Attala County			
28007027	7	62 IMPROVED PASTURE	20 TIMBERLAND
28007074	7	61 CROPLAND	20 TIMBERLAND
28007078	7	61 CROPLAND	20 TIMBERLAND
Benton County			
28009019	9	61 CROPLAND	20 TIMBERLAND
28009035	9	62 IMPROVED PASTURE	20 TIMBERLAND
28009038	9	20 TIMBERLAND	66 OTHER FARMLAND
Bolivar County			
28011028	11	92 NONCENSUS WATER	20 TIMBERLAND
28011048	11	61 CROPLAND	20 TIMBERLAND
28011064	11	20 TIMBERLAND	66 OTHER FARMLAND
28011096	11	20 TIMBERLAND	66 OTHER FARMLAND
Calhoun County			
28013010	13	61 CROPLAND	20 TIMBERLAND
28013012	13	62 IMPROVED PASTURE	20 TIMBERLAND
28013048	13	62 IMPROVED PASTURE	20 TIMBERLAND
Carroll County			
28015003	15	62 IMPROVED PASTURE	20 TIMBERLAND
28015015	15	62 IMPROVED PASTURE	20 TIMBERLAND
28015023	15	62 IMPROVED PASTURE	20 TIMBERLAND
28015028	15	62 IMPROVED PASTURE	20 TIMBERLAND
28015040	15	62 IMPROVED PASTURE	20 TIMBERLAND
28015043	15	66 OTHER FARMLAND	20 TIMBERLAND
28015058	15	62 IMPROVED PASTURE	20 TIMBERLAND
28015059	15	61 CROPLAND	20 TIMBERLAND
28015061	15	61 CROPLAND	20 TIMBERLAND
Chickasaw County			
28017030	17	62 IMPROVED PASTURE	20 TIMBERLAND
28017049	17	61 CROPLAND	20 TIMBERLAND

TABLE 42 (Continued)

Plot ID	Co	Ground Use 1977	Ground Use 1967
28017051	17	61 CROPLAND	20 TIMBERLAND
28017052	17	61 CROPLAND	20 TIMBERLAND
Choctaw County			
28019021	19	62 IMPROVED PASTURE	20 TIMBERLAND
28019027	19	20 TIMBERLAND	67 URBAN & OTHER
28019029	19	62 IMPROVED PASTURE	20 TIMBERLAND
28019040	19	62 IMPROVED PASTURE	20 TIMBERLAND
Claiborne County			
28021037	21	20 TIMBERLAND	66 OTHER FARMLAND
Clarke County			
28023020	23	62 IMPROVED PASTURE	20 TIMBERLAND
28023038	23	62 IMPROVED PASTURE	20 TIMBERLAND
28023050	23	67 URBAN & OTHER	20 TIMBERLAND
Clay County			
28025030	25	62 IMPROVED PASTURE	20 TIMBERLAND
28025032	25	20 TIMBERLAND	66 OTHER FARMLAND
28025033	25	62 IMPROVED PASTURE	20 TIMBERLAND
28025036	25	62 IMPROVED PASTURE	20 TIMBERLAND
28025040	25	92 NONCENSUS WATER	20 TIMBERLAND
28025051	25	62 IMPROVED PASTURE	20 TIMBERLAND
Copiah County			
28029013	29	20 TIMBERLAND	66 OTHER FARMLAND
28029017	29	62 IMPROVED PASTURE	20 TIMBERLAND
28029030	29	62 IMPROVED PASTURE	20 TIMBERLAND
28029075	29	20 TIMBERLAND	67 URBAN & OTHER
28029089	29	64 IDLE FARMLAND	20 TIMBERLAND
Covington County			
28031008	31	62 IMPROVED PASTURE	20 TIMBERLAND
28031021	31	92 NONCENSUS WATER	20 TIMBERLAND
28031028	31	61 CROPLAND	20 TIMBERLAND
28031031	31	62 IMPROVED PASTURE	20 TIMBERLAND
28031035	31	62 IMPROVED PASTURE	20 TIMBERLAND
28031037	31	62 IMPROVED PASTURE	20 TIMBERLAND
DeSoto County			
28033002	33	66 OTHER FARMLAND	20 TIMBERLAND
28033024	33	62 IMPROVED PASTURE	20 TIMBERLAND
28033029	33	67 URBAN & OTHER	20 TIMBERLAND
28033040	33	67 URBAN & OTHER	20 TIMBERLAND
28033049	33	20 TIMBERLAND	66 OTHER FARMLAND
28033050	33	61 CROPLAND	20 TIMBERLAND
Forrest County			
28035005	35	62 IMPROVED PASTURE	20 TIMBERLAND
28035009	35	20 TIMBERLAND	64 IDLE FARMLAND
28035014	35	67 URBAN & OTHER	20 TIMBERLAND
28035048	35	67 URBAN & OTHER	20 TIMBERLAND
Franklin County			
28037025	37	67 URBAN & OTHER	20 TIMBERLAND
28037034	37	61 CROPLAND	20 TIMBERLAND

TABLE 42 (Continued)

Plot ID	Co	Ground Use 1977	Ground Use 1967
28037051	37	62 IMPROVED PASTURE	20 TIMBERLAND
George County			
28039005	39	61 CROPLAND	20 TIMBERLAND
28039007	39	61 CROPLAND	20 TIMBERLAND
28039009	39	62 IMPROVED PASTURE	20 TIMBERLAND
28039011	39	20 TIMBERLAND	66 OTHER FARMLAND
Greene County			
28041006	41	20 TIMBERLAND	67 URBAN & OTHER
28041052	41	61 CROPLAND	20 TIMBERLAND
28041057	41	62 IMPROVED PASTURE	20 TIMBERLAND
28041059	41	62 IMPROVED PASTURE	20 TIMBERLAND
Grenada County			
28043008	43	20 TIMBERLAND	67 URBAN & OTHER
28043013	43	20 TIMBERLAND	66 OTHER FARMLAND
28043044	43	20 TIMBERLAND	66 OTHER FARMLAND
Hancock County			
28045005	45	62 IMPROVED PASTURE	20 TIMBERLAND
28045011	45	20 TIMBERLAND	67 URBAN & OTHER
28045013	45	20 TIMBERLAND	66 OTHER FARMLAND
28045016	45	62 IMPROVED PASTURE	20 TIMBERLAND
28045020	45	62 IMPROVED PASTURE	20 TIMBERLAND
28045037	45	64 IDLE FARMLAND	20 TIMBERLAND
28045040	45	62 IMPROVED PASTURE	20 TIMBERLAND
28045043	45	62 IMPROVED PASTURE	20 TIMBERLAND
Harrison County			
28047042	47	64 IDLE FARMLAND	20 TIMBERLAND
28047067	47	62 IMPROVED PASTURE	20 TIMBERLAND
Hinds County			
28049039	49	64 IDLE FARMLAND	20 TIMBERLAND
28049061	49	61 CROPLAND	20 TIMBERLAND
28049065	49	62 IMPROVED PASTURE	20 TIMBERLAND
28049072	49	62 IMPROVED PASTURE	20 TIMBERLAND
28049075	49	64 IDLE FARMLAND	20 TIMBERLAND
28049079	49	62 IMPROVED PASTURE	20 TIMBERLAND
28049080	49	62 IMPROVED PASTURE	20 TIMBERLAND
28049092	49	61 CROPLAND	20 TIMBERLAND
28049102	49	61 CROPLAND	20 TIMBERLAND
Holmes County			
28051001	51	62 IMPROVED PASTURE	20 TIMBERLAND
28051045	51	20 TIMBERLAND	64 IDLE FARMLAND
28051057	51	61 CROPLAND	20 TIMBERLAND
28051059	51	61 CROPLAND	20 TIMBERLAND
28051063	51	20 TIMBERLAND	66 OTHER FARMLAND
28051068	51	20 TIMBERLAND	67 URBAN & OTHER
Humphreys County			
28053001	53	61 CROPLAND	20 TIMBERLAND
28053002	53	61 CROPLAND	20 TIMBERLAND
28053005	53	61 CROPLAND	20 TIMBERLAND
28053011	53	20 TIMBERLAND	67 URBAN & OTHER

TABLE 42 (Continued)

Plot ID	Co	Ground Use 1977	Ground Use 1967
28053032	53	61 CROPLAND	20 TIMBERLAND
Issaquena County			
28055009	55	61 CROPLAND	20 TIMBERLAND
28055012	55	92 NONCENSUS WATER	20 TIMBERLAND
28055018	55	20 TIMBERLAND	66 OTHER FARMLAND
28055019	55	67 URBAN & OTHER	20 TIMBERLAND
28055023	55	20 TIMBERLAND	66 OTHER FARMLAND
28055024	55	61 CROPLAND	20 TIMBERLAND
28055028	55	61 CROPLAND	20 TIMBERLAND
28055039	55	20 TIMBERLAND	66 OTHER FARMLAND
Itawamba County			
28057053	57	61 CROPLAND	20 TIMBERLAND
28057060	57	20 TIMBERLAND	66 OTHER FARMLAND
Jackson County			
28059015	59	62 IMPROVED PASTURE	20 TIMBERLAND
28059023	59	92 NONCENSUS WATER	20 TIMBERLAND
28059036	59	20 TIMBERLAND	67 URBAN & OTHER
28059054	59	62 IMPROVED PASTURE	20 TIMBERLAND
28059063	59	67 URBAN & OTHER	20 TIMBERLAND
Jasper County			
28061001	61	64 IDLE FARMLAND	20 TIMBERLAND
28061020	61	64 IDLE FARMLAND	20 TIMBERLAND
28061043	61	62 IMPROVED PASTURE	20 TIMBERLAND
28061053	61	20 TIMBERLAND	66 OTHER FARMLAND
28061058	61	20 TIMBERLAND	66 OTHER FARMLAND
28061065	61	62 IMPROVED PASTURE	20 TIMBERLAND
Jefferson County			
28063018	63	20 TIMBERLAND	66 OTHER FARMLAND
28063021	63	61 CROPLAND	20 TIMBERLAND
Jefferson Davis County			
28065002	65	67 URBAN & OTHER	20 TIMBERLAND
28065007	65	62 IMPROVED PASTURE	20 TIMBERLAND
28065020	65	62 IMPROVED PASTURE	20 TIMBERLAND
28065031	65	67 URBAN & OTHER	20 TIMBERLAND
28065033	65	20 TIMBERLAND	66 OTHER FARMLAND
28065038	65	20 TIMBERLAND	66 OTHER FARMLAND
Jones County			
28067014	67	67 URBAN & OTHER	20 TIMBERLAND
28067035	67	20 TIMBERLAND	64 IDLE FARMLAND
28067046	67	62 IMPROVED PASTURE	20 TIMBERLAND
28067052	67	67 URBAN & OTHER	20 TIMBERLAND
28067072	67	62 IMPROVED PASTURE	20 TIMBERLAND
28067075	67	62 IMPROVED	20 TIMBERLAND
Kemper County			
28069001	69	64 IDLE FARMLAND	20 TIMBERLAND
28069004	69	61 CROPLAND	20 TIMBERLAND
28069017	69	20 TIMBERLAND	66 OTHER FARMLAND
28069029	69	62 IMPROVED PASTURE	20 TIMBERLAND
28069031	69	20 TIMBERLAND	66 OTHER FARMLAND

TABLE 42 (Continued)

Plot ID	Co	Ground Use 1977	Ground Use 1967
28069055	69	20 TIMBERLAND	66 OTHER FARMLAND
28069061	69	20 TIMBERLAND	66 OTHER FARMLAND
28069072	69	20 TIMBERLAND	66 OTHER FARMLAND
28069080	69	67 URBAN & OTHER	20 TIMBERLAND
28069083	69	62 IMPROVED PASTURE	20 TIMBERLAND
28069089	69	20 TIMBERLAND	66 OTHER FARMLAND
28069090	69	62 IMPROVED PASTURE	20 TIMBERLAND
Lafayette County			
28071005	71	62 IMPROVED PASTURE	20 TIMBERLAND
28071006	71	20 TIMBERLAND	66 OTHER FARMLAND
28071033	71	20 TIMBERLAND	66 OTHER FARMLAND
28071038	71	20 TIMBERLAND	66 OTHER FARMLAND
28071059	71	67 URBAN & OTHER	20 TIMBERLAND
28071074	71	66 OTHER FARMLAND	20 TIMBERLAND
Lamar County			
28073011	73	62 IMPROVED PASTURE	20 TIMBERLAND
28073021	73	62 IMPROVED PASTURE	20 TIMBERLAND
28073024	73	61 CROPLAND	20 TIMBERLAND
Lauderdale County			
28075060	75	62 IMPROVED PASTURE	20 TIMBERLAND
28075063	75	91 CENSUS WATER	20 TIMBERLAND
Lawrence County			
28077035	77	20 TIMBERLAND	64 IDLE FARMLAND
Leake County			
28079015	79	62 IMPROVED PASTURE	20 TIMBERLAND
28079025	79	20 TIMBERLAND	64 IDLE FARMLAND
28079029	79	62 IMPROVED PASTURE	20 TIMBERLAND
28079045	79	62 IMPROVED PASTURE	20 TIMBERLAND
28079055	79	20 TIMBERLAND	66 OTHER FARMLAND
28079064	79	20 TIMBERLAND	67 URBAN & OTHER
Lee County			
28081002	81	62 IMPROVED PASTURE	20 TIMBERLAND
28081012	81	62 IMPROVED PASTURE	20 TIMBERLAND
28081014	81	20 TIMBERLAND	64 IDLE FARMLAND
28081030	81	20 TIMBERLAND	66 OTHER FARMLAND
28081042	81	62 IMPROVED PASTURE	20 TIMBERLAND
Leflore County			
28083016	83	61 CROPLAND	20 TIMBERLAND
Lincoln County			
28085026	85	62 IMPROVED PASTURE	20 TIMBERLAND
28085032	85	67 URBAN & OTHER	20 TIMBERLAND
28085040	85	20 TIMBERLAND	66 OTHER FARMLAND
Lowndes County			
28087012	87	62 IMPROVED PASTURE	20 TIMBERLAND
28087015	87	62 IMPROVED PASTURE	20 TIMBERLAND
28087057	87	62 IMPROVED PASTURE	20 TIMBERLAND

TABLE 42 (Continued)

Plot ID	Co	Ground Use 1977	Ground Use 1967
Madison County			
28089010	89	62 IMPROVED PASTURE	20 TIMBERLAND
28089032	89	62 IMPROVED PASTURE	20 TIMBERLAND
28089038	89	67 URBAN & OTHER	20 TIMBERLAND
28089047	89	61 CROPLAND	20 TIMBERLAND
28089051	89	62 IMPROVED PASTURE	20 TIMBERLAND
Marion County			
28091025	91	62 IMPROVED PASTURE	20 TIMBERLAND
28091026	91	62 IMPROVED PASTURE	20 TIMBERLAND
28091031	91	62 IMPROVED PASTURE	20 TIMBERLAND
Marshall County			
28093005	93	62 IMPROVED PASTURE	20 TIMBERLAND
28093026	93	20 TIMBERLAND	66 OTHER FARMLAND
28093027	93	62 IMPROVED PASTURE	20 TIMBERLAND
28093052	93	20 TIMBERLAND	66 OTHER FARMLAND
28093054	93	62 IMPROVED PASTURE	20 TIMBERLAND
28093056	93	62 IMPROVED PASTURE	20 TIMBERLAND
28093058	93	20 TIMBERLAND	66 OTHER FARMLAND
28093072	93	64 IDLE FARMLAND	20 TIMBERLAND
28093073	93	20 TIMBERLAND	64 IDLE FARMLAND
28093075	93	67 URBAN & OTHER	20 TIMBERLAND
Monroe County			
28095005	95	20 TIMBERLAND	66 OTHER FARMLAND
28095010	95	64 IDLE FARMLAND	20 TIMBERLAND
28095053	95	61 CROPLAND	20 TIMBERLAND
28095069	95	20 TIMBERLAND	64 IDLE FARMLAND
Montgomery County			
28097009	97	20 TIMBERLAND	64 IDLE FARMLAND
28097038	97	61 CROPLAND	20 TIMBERLAND
28097041	97	62 IMPROVED PASTURE	20 TIMBERLAND
28097043	97	62 IMPROVED PASTURE	20 TIMBERLAND
Neshoba County			
28099010	99	62 IMPROVED PASTURE	20 TIMBERLAND
28099025	99	62 IMPROVED PASTURE	20 TIMBERLAND
28099045	99	62 IMPROVED PASTURE	20 TIMBERLAND
Newton County			
28101017	101	62 IMPROVED PASTURE	20 TIMBERLAND
28101021	101	20 TIMBERLAND	64 IDLE FARMLAND
28101030	101	62 IMPROVED PASTURE	20 TIMBERLAND
28101034	101	62 IMPROVED PASTURE	20 TIMBERLAND
28101037	101	66 OTHER FARMLAND	20 TIMBERLAND
28101042	101	62 IMPROVED PASTURE	20 TIMBERLAND
28101048	101	20 TIMBERLAND	64 IDLE FARMLAND
28101051	101	20 TIMBERLAND	66 OTHER FARMLAND
28101060	101	67 URBAN & OTHER	20 TIMBERLAND
Noxubee County			
28103011	103	61 CROPLAND	20 TIMBERLAND
28103012	103	61 CROPLAND	20 TIMBERLAND
28103015	103	20 TIMBERLAND	66 OTHER FARMLAND
28103016	103	61 CROPLAND	20 TIMBERLAND

TABLE 42 (Continued)

Plot ID	Co	Ground Use 1977	Ground Use 1967
28103032	103	61 CROPLAND	20 TIMBERLAND
28103034	103	62 IMPROVED PASTURE	20 TIMBERLAND
28103046	103	62 IMPROVED PASTURE	20 TIMBERLAND
28103066	103	61 CROPLAND	20 TIMBERLAND
28103067	103	61 CROPLAND	20 TIMBERLAND
Oktibbeha County			
28105007	105	20 TIMBERLAND	66 OTHER FARMLAND
28105010	105	20 TIMBERLAND	66 OTHER FARMLAND
28105014	105	20 TIMBERLAND	66 OTHER FARMLAND
28105021	105	20 TIMBERLAND	67 URBAN & OTHER
28105025	105	20 TIMBERLAND	64 IDLE FARMLAND
28105027	105	20 TIMBERLAND	66 OTHER FARMLAND
28105050	105	66 OTHER FARMLAND	20 TIMBERLAND
28105051	105	20 TIMBERLAND	66 OTHER FARMLAND
Panola County			
28107014	107	20 TIMBERLAND	66 OTHER FARMLAND
28107029	107	62 IMPROVED PASTURE	20 TIMBERLAND
28107032	107	67 URBAN & OTHER	20 TIMBERLAND
28107036	107	20 TIMBERLAND	66 OTHER FARMLAND
28107045	107	20 TIMBERLAND	66 OTHER FARMLAND
28107058	107	20 TIMBERLAND	66 OTHER FARMLAND
28107068	107	61 CROPLAND	20 TIMBERLAND
Pearl River County			
28109003	109	62 IMPROVED PASTURE	20 TIMBERLAND
28109005	109	62 IMPROVED PASTURE	20 TIMBERLAND
28109021	109	20 TIMBERLAND	66 OTHER FARMLAND
28109040	109	62 IMPROVED PASTURE	20 TIMBERLAND
28109042	109	67 URBAN & OTHER	20 TIMBERLAND
28109061	109	61 CROPLAND	20 TIMBERLAND
28109067	109	20 TIMBERLAND	64 IDLE FARMLAND
28109069	109	20 TIMBERLAND	67 URBAN & OTHER
28109082	109	20 TIMBERLAND	66 OTHER FARMLAND
28109083	109	62 IMPROVED PASTURE	20 TIMBERLAND
Perry County			
28111029	111	62 IMPROVED PASTURE	20 TIMBERLAND
Pike County			
28113001	113	62 IMPROVED PASTURE	20 TIMBERLAND
28113006	113	62 IMPROVED PASTURE	20 TIMBERLAND
28113009	113	61 CROPLAND	20 TIMBERLAND
28113021	113	20 TIMBERLAND	64 IDLE FARMLAND
28113027	113	62 IMPROVED PASTURE	20 TIMBERLAND
28113037	113	20 TIMBERLAND	66 OTHER FARMLAND
Pontotoc County			
28115038	115	61 CROPLAND	20 TIMBERLAND
28115041	115	61 CROPLAND	20 TIMBERLAND
28115047	115	62 IMPROVED PASTURE	20 TIMBERLAND
28115048	115	61 CROPLAND	20 TIMBERLAND
28115051	115	61 CROPLAND	20 TIMBERLAND
Prentiss County			
28117026	117	67 URBAN & OTHER	20 TIMBERLAND

TABLE 42 (Continued)

Plot ID	Co	Ground Use 1977	Ground Use 1967
28117027	117	20 TIMBERLAND	66 OTHER FARMLAND
28117034	117	62 IMPROVED PASTURE	20 TIMBERLAND
28117039	117	62 IMPROVED PASTURE	20 TIMBERLAND
28117042	117	62 IMPROVED PASTURE	20 TIMBERLAND
Quitman County			
28119009	119	61 CROPLAND	20 TIMBERLAND
28119011	119	61 CROPLAND	20 TIMBERLAND
28119026	119	61 CROPLAND	20 TIMBERLAND
28119030	119	20 TIMBERLAND	66 OTHER FARMLAND
28119035	119	61 CROPLAND	20 TIMBERLAND
Rankin County			
28121001	121	64 IDLE FARMLAND	20 TIMBERLAND
28121008	121	61 CROPLAND	20 TIMBERLAND
28121015	121	64 IDLE FARMLAND	20 TIMBERLAND
28121016	121	62 IMPROVED PASTURE	20 TIMBERLAND
28121018	121	64 IDLE FARMLAND	20 TIMBERLAND
28121021	121	67 URBAN & OTHER	20 TIMBERLAND
28121031	121	62 IMPROVED PASTURE	20 TIMBERLAND
28121040	121	20 TIMBERLAND	66 OTHER FARMLAND
28121054	121	67 URBAN & OTHER	20 TIMBERLAND
28121059	121	64 IDLE FARMLAND	20 TIMBERLAND
28121068	121	67 URBAN & OTHER	20 TIMBERLAND
28121071	121	62 IMPROVED PASTURE	20 TIMBERLAND
28121077	121	67 URBAN & OTHER	20 TIMBERLAND
Scott County			
28123020	123	62 IMPROVED PASTURE	20 TIMBERLAND
28123027	123	62 IMPROVED PASTURE	20 TIMBERLAND
28123036	123	20 TIMBERLAND	66 OTHER FARMLAND
28123072	123	61 CROPLAND	20 TIMBERLAND
Sharkey County			
28125026	125	61 CROPLAND	20 TIMBERLAND
28125027	125	61 CROPLAND	20 TIMBERLAND
28125031	125	61 CROPLAND	20 TIMBERLAND
28125042	125	61 CROPLAND	20 TIMBERLAND
Simpson County			
28127003	127	62 IMPROVED PASTURE	20 TIMBERLAND
28127009	127	67 URBAN & OTHER	20 TIMBERLAND
28127018	127	61 CROPLAND	20 TIMBERLAND
28127030	127	62 IMPROVED PASTURE	20 TIMBERLAND
Smith County			
28129004	129	20 TIMBERLAND	66 OTHER FARMLAND
28129008	129	20 TIMBERLAND	67 URBAN & OTHER
28129009	129	62 IMPROVED PASTURE	20 TIMBERLAND
28129031	129	67 URBAN & OTHER	20 TIMBERLAND
28129050	129	20 TIMBERLAND	64 IDLE FARMLAND
Stone County			
28131029	131	67 URBAN & OTHER	20 TIMBERLAND
28131060	131	20 TIMBERLAND	67 URBAN & OTHER

TABLE 42 (Continued)

Plot ID	Co	Ground Use 1977	Ground Use 1967
Tallahatchie County			
28135005	135	64 IDLE FARMLAND	20 TIMBERLAND
28135045	135	61 CROPLAND	20 TIMBERLAND
Tate County			
28137008	137	62 IMPROVED PASTURE	20 TIMBERLAND
28137018	137	20 TIMBERLAND	66 OTHER FARMLAND
28137020	137	20 TIMBERLAND	66 OTHER FARMLAND
28137028	137	20 TIMBERLAND	66 OTHER FARMLAND
28137029	137	20 TIMBERLAND	66 OTHER FARMLAND
28137036	137	20 TIMBERLAND	66 OTHER FARMLAND
28137040	137	62 IMPROVED PASTURE	20 TIMBERLAND
28137041	137	20 TIMBERLAND	66 OTHER FARMLAND
28137048	137	62 IMPROVED PASTURE	20 TIMBERLAND
Tippah County			
28139035	139	62 IMPROVED PASTURE	20 TIMBERLAND
Tishomingo County			
28141008	141	61 CROPLAND	20 TIMBERLAND
28141019	141	62 IMPROVED PASTURE	20 TIMBERLAND
28141031	141	67 URBAN & OTHER	20 TIMBERLAND
28141049	141	64 IDLE FARMLAND	20 TIMBERLAND
Tunica County			
28143007	143	61 CROPLAND	20 TIMBERLAND
28143008	143	61 CROPLAND	20 TIMBERLAND
28143014	143	61 CROPLAND	20 TIMBERLAND
28143034	143	61 CROPLAND	20 TIMBERLAND
28143040	143	61 CROPLAND	20 TIMBERLAND
28143046	143	92 NONCENSUS WATER	20 TIMBERLAND
Union County			
28145002	145	62 IMPROVED PASTURE	20 TIMBERLAND
28145009	145	92 NONCENSUS WATER	20 TIMBERLAND
28145017	145	92 NONCENSUS WATER	20 TIMBERLAND
28145035	145	62 IMPROVED PASTURE	20 TIMBERLAND
Walthall County			
28147001	147	64 IDLE FARMLAND	20 TIMBERLAND
28147012	147	62 IMPROVED PASTURE	20 TIMBERLAND
28147019	147	20 TIMBERLAND	64 IDLE FARMLAND
28147049	147	62 IMPROVED PASTURE	20 TIMBERLAND
Warren County			
28149017	149	20 TIMBERLAND	66 OTHER FARMLAND
28149024	149	61 CROPLAND	20 TIMBERLAND
28149038	149	67 URBAN & OTHER	20 TIMBERLAND
28149043	149	20 TIMBERLAND	67 URBAN & OTHER
28149045	149	61 CROPLAND	20 TIMBERLAND
28149050	149	67 URBAN & OTHER	20 TIMBERLAND
Washington County			
28151025	151	61 CROPLAND	20 TIMBERLAND
28151034	151	61 CROPLAND	20 TIMBERLAND
28151043	151	92 NONCENSUS WATER	20 TIMBERLAND
28151060	151	67 URBAN & OTHER	20 TIMBERLAND

TABLE 42 (Continued)

Plot ID	Co	Ground Use 1977	Ground Use 1967
28151070	151	66 OTHER FARMLAND	20 TIMBERLAND
Wayne County			
28153005	153	20 TIMBERLAND	64 IDLE FARMLAND
28153009	153	62 IMPROVED PASTURE	20 TIMBERLAND
28153023	153	20 TIMBERLAND	67 URBAN & OTHER
28153081	153	66 OTHER FARMLAND	20 TIMBERLAND
Webster County			
28155002	155	62 IMPROVED PASTURE	20 TIMBERLAND
28155003	155	61 CROPLAND	20 TIMBERLAND
28155010	155	62 IMPROVED PASTURE	20 TIMBERLAND
28155020	155	62 IMPROVED PASTURE	20 TIMBERLAND
28155023	155	62 IMPROVED PASTURE	20 TIMBERLAND
28155028	155	62 IMPROVED PASTURE	20 TIMBERLAND
Wilkinson County			
28157025	157	61 CROPLAND	20 TIMBERLAND
28157047	157	20 TIMBERLAND	66 OTHER FARMLAND
28157062	157	68 MARSH	20 TIMBERLAND
28157069	157	20 TIMBERLAND	66 OTHER FARMLAND
28157072	157	61 CROPLAND	20 TIMBERLAND
Winston County			
28159021	159	67 URBAN & OTHER	20 TIMBERLAND
28159041	159	20 TIMBERLAND	66 OTHER FARMLAND
28159046	159	62 IMPROVED PASTURE	20 TIMBERLAND
28159048	159	20 TIMBERLAND	64 IDLE FARMLAND
28159055	159	20 TIMBERLAND	66 OTHER FARMLAND
28159057	159	67 URBAN & OTHER	20 TIMBERLAND
28159058	159	20 TIMBERLAND	66 OTHER FARMLAND
Yalobusha County			
28161003	161	20 TIMBERLAND	64 IDLE FARMLAND
28161010	161	68 MARSH	20 TIMBERLAND
28161031	161	62 IMPROVED PASTURE	20 TIMBERLAND
28161051	161	67 URBAN & OTHER	20 TIMBERLAND
28161057	161	61 CROPLAND	20 TIMBERLAND
Yazoo County			
28163020	163	67 URBAN & OTHER	20 TIMBERLAND
28163028	163	20 TIMBERLAND	66 OTHER FARMLAND
28163043	163	62 IMPROVED PASTURE	20 TIMBERLAND
28163045	163	67 URBAN & OTHER	20 TIMBERLAND
28163059	163	20 TIMBERLAND	67 URBAN & OTHER
28163060	163	62 IMPROVED PASTURE	20 TIMBERLAND
28163071	163	61 CROPLAND	20 TIMBERLAND
28163073	163	20 TIMBERLAND	66 OTHER FARMLAND
28163090	163	61 CROPLAND	20 TIMBERLAND

TABLE 43

MISSISSIPPI PLOTS CHANGES BY COUNTY, 1977 TO 1987

Plot ID	Co	Ground Use 1987	Ground Use 1977
Adams County			
28001010	1	20 Timberland	62 Improved Pasture
28001019	1	20 Timberland	64 Idle Farmland
28001021	1	20 Timberland	91 Census Water
28001023	1	67 Urban & Other	20 Timberland
28001032	1	20 Timberland	67 Urban & Other
28001034	1	20 Timberland	67 Urban & Other
28001038	1	20 Timberland	64 Idle Farmland
Alcorn County			
28003001	3	67 Urban & Other	20 Timberland
28003030	3	20 Timberland	61 Cropland
28003051	3	20 Timberland	62 Improved Pasture
Amite County			
28005004	5	20 Timberland	62 Improved Pasture
28005017	5	20 Timberland	92 Noncensus Water
28005033	5	20 Timberland	62 Improved Pasture
28005045	5	20 Timberland	64 Idle Farmland
Attala County			
28007003	7	20 Timberland	62 Improved Pasture
28007010	7	20 Timberland	92 Noncensus Water
28007017	7	20 Timberland	50 Reserved Timberland
28007027	7	20 Timberland	62 Improved Pasture
28007039	7	20 Timberland	62 Improved Pasture
28007068	7	20 Timberland	64 Idle Farmland
28007076	7	20 Timberland	62 Improved Pasture
28007084	7	61 Cropland	20 Timberland
Benton County			
28009001	9	20 Timberland	62 Improved Pasture
28009008	9	20 Timberland	64 Idle Farmland
28009016	9	67 Urban & Other	20 Timberland
28009029	9	20 Timberland	62 Improved Pasture
28009034	9	20 Timberland	92 Noncensus Water
Bolivar County			
28011062	11	61 Cropland	20 Timberland
28011096	11	61 Cropland	20 Timberland
Calhoun County			
28013012	13	20 Timberland	62 Improved Pasture
28013013	13	20 Timberland	62 Improved Pasture
28013021	13	62 Improved Pasture	20 Timberland
28013039	13	20 Timberland	62 Improved Pasture
Carroll County			
28015004	15	61 Cropland	20 Timberland
28015009	15	62 Improved Pasture	20 Timberland
28015015	15	20 Timberland	62 Improved Pasture
28015024	15	20 Timberland	62 Improved Pasture
28015037	15	20 Timberland	62 Improved Pasture
28015042	15	62 Improved Pasture	20 Timberland

TABLE 43 (Continued)

Plot ID	Co	Ground Use 1987	Ground Use 1977
28015047	15	20 Timberland	62 Improved Pasture
28015050	15	20 Timberland	62 Improved Pasture
Chickasaw County			
28017019	17	20 Timberland	61 Cropland
28017024	17	20 Timberland	62 Improved Pasture
28017035	17	20 Timberland	62 Improved Pasture
28017040	17	61 Cropland	20 Timberland
Choctaw County			
28019016	19	20 Timberland	66 Other Farmland
28019040	19	20 Timberland	62 Improved Pasture
28019043	19	20 Timberland	62 Improved Pasture
Claiborne County			
28021016	21	20 Timberland	50 Reserved Timberland
28021033	21	20 Timberland	67 Urban & Other
Clarke County			
28023019	23	62 Improved Pasture	20 Timberland
28023034	23	61 Cropland	20 Timberland
28023062	23	62 Improved Pasture	20 Timberland
Clay County			
28025004	25	91 Census Water	20 Timberland
28025040	25	20 Timberland	92 Noncensus Water
Copiah County			
28029008	29	20 Timberland	64 Idle Farmland
28029024	29	20 Timberland	67 Urban & Other
28029046	29	20 Timberland	62 Improved Pasture
28029052	29	20 Timberland	62 Improved Pasture
Covington County			
28031019	31	20 Timberland	62 Improved Pasture
DeSoto County			
28033016	33	61 Cropland	20 Timberland
28033034	33	20 Timberland	61 Cropland
Forrest County			
28035005	35	20 Timberland	62 Improved Pasture
Franklin County			
28037002	37	20 Timberland	62 Improved Pasture
28037005	37	20 Timberland	62 Improved Pasture
28037051	37	20 Timberland	62 Improved Pasture
28037053	37	67 Urban & Other	20 Timberland
George County			
28039008	39	61 Cropland	20 Timberland
28039014	39	67 Urban & Other	20 Timberland
28039016	39	67 Urban & Other	20 Timberland
28039031	39	20 Timberland	50 Reserved Timberland
28039037	39	92 Noncensus Water	20 Timberland
28039039	39	20 Timberland	50 Reserved Timberland

TABLE 43 (Continued)

Plot ID	Co	Ground Use 1987	Ground Use 1977
28039040	39	20 Timberland	50 Reserved Timberland
28039041	39	20 Timberland	50 Reserved Timberland
28039042	39	20 Timberland	50 Reserved Timberland
Greene County			
28041027	41	67 Urban & Other	20 Timberland
Grenada County			
28043003	43	20 Timberland	61 Cropland
28043008	43	91 Census Water	20 Timberland
28043025	43	67 Urban & Other	20 Timberland
28043039	43	20 Timberland	62 Improved Pasture
28043044	43	61 Cropland	20 Timberland
Hancock County			
28045009	45	20 Timberland	67 Urban & Other
28045037	45	20 Timberland	64 Idle Farmland
Harrison County			
28047051	47	66 Other Farmland	20 Timberland
28047052	47	67 Urban & Other	20 Timberland
28047063	47	62 Improved Pasture	20 Timberland
28047065	47	67 Urban & Other	20 Timberland
Hinds County			
28049008	49	20 Timberland	64 Idle Farmland
28049015	49	20 Timberland	62 Improved Pasture
28049019	49	20 Timberland	62 Improved Pasture
28049027	49	20 Timberland	50 Reserved Timberland
28049035	49	62 Improved Pasture	20 Timberland
28049042	49	20 Timberland	62 Improved Pasture
28049074	49	20 Timberland	61 Cropland
28049075	49	20 Timberland	64 Idle Farmland
28049079	49	20 Timberland	62 Improved Pasture
28049099	49	20 Timberland	67 Urban & Other
Holmes County			
28051016	51	20 Timberland	62 Improved Pasture
28051050	51	20 Timberland	62 Improved Pasture
Issaquena County			
28055012	55	20 Timberland	92 Noncensus Water
28055015	55	61 Cropland	20 Timberland
28055023	55	61 Cropland	20 Timberland
28055040	55	20 Timberland	67 Urban & Other
Itawamba County			
28057014	57	20 Timberland	67 Urban & Other
28057039	57	67 Urban & Other	20 Timberland
28057044	57	62 Improved Pasture	20 Timberland
Jackson County			
28059034	59	20 Timberland	50 Reserved Timberland
28059035	59	20 Timberland	50 Reserved Timberland
28059040	59	20 Timberland	50 Reserved Timberland
28059080	59	67 Urban & Other	20 Timberland

TABLE 43 (Continued)

Plot ID	Co	Ground Use 1987	Ground Use 1977
Jasper County			
28061001	61	20 Timberland	64 Idle Farmland
28061019	61	20 Timberland	62 Improved Pasture
28061022	61	20 Timberland	64 Idle Farmland
28061043	61	20 Timberland	62 Improved Pasture
28061049	61	20 Timberland	62 Improved Pasture
28061054	61	20 Timberland	62 Improved Pasture
28061072	61	20 Timberland	62 Improved Pasture
Jefferson County			
28063020	63	20 Timberland	61 Cropland
28063021	63	20 Timberland	61 Cropland
28063034	63	62 Improved Pasture	20 Timberland
28063036	63	62 Improved Pasture	20 Timberland
28063043	63	62 Improved Pasture	20 Timberland
Jefferson Davis County			
28065005	65	20 Timberland	62 Improved Pasture
28065015	65	20 Timberland	62 Improved Pasture
28065038	65	67 Urban & Other	20 Timberland
Jones County			
28067004	67	62 Improved Pasture	20 Timberland
28067048	67	20 Timberland	64 Idle Farmland
28067055	67	20 Timberland	62 Improved Pasture
Kemper County			
28069024	69	20 Timberland	62 Improved Pasture
28069029	69	20 Timberland	62 Improved Pasture
28069043	69	20 Timberland	64 Idle Farmland
28069084	69	20 Timberland	62 Improved Pasture
28069090	69	20 Timberland	62 Improved Pasture
28069091	69	62 Improved Pasture	20 Timberland
Lafayette County			
28071002	71	62 Improved Pasture	20 Timberland
Lamar County			
28073010	73	62 Improved Pasture	20 Timberland
28073012	73	20 Timberland	64 Idle Farmland
28073054	73	20 Timberland	61 Cropland
28073056	73	64 Idle Farmland	20 Timberland
Lauderdale County			
28075044	75	20 Timberland	67 Urban & Other
28075045	75	67 Urban & Other	20 Timberland
28075049	75	67 Urban & Other	20 Timberland
28075052	75	67 Urban & Other	20 Timberland
28075064	75	20 Timberland	64 Idle Farmland
28075078	75	67 Urban & Other	20 Timberland
Lawrence County			
28077033	77	62 Improved Pasture	20 Timberland
Leake County			
28079023	79	20 Timberland	61 Cropland

TABLE 43 (Continued)

Plot ID	Co	Ground Use 1987	Ground Use 1977
28079026	79	20 Timberland	62 Improved Pasture
28079027	79	20 Timberland	62 Improved Pasture
28079034	79	20 Timberland	62 Improved Pasture
Lee County			
28081014	81	67 Urban & Other	20 Timberland
28081039	81	67 Urban & Other	20 Timberland
Leflore County			
28083004	83	20 Timberland	61 Cropland
28083039	83	61 Cropland	20 Timberland
Lincoln County			
28085026	85	20 Timberland	62 Improved Pasture
28085029	85	67 Urban & Other	20 Timberland
28085033	85	20 Timberland	61 Cropland
28085038	85	20 Timberland	64 Idle Farmland
28085043	85	62 Improved Pasture	20 Timberland
28085045	85	20 Timberland	62 Improved Pasture
28085046	85	20 Timberland	62 Improved Pasture
28085051	85	20 Timberland	64 Idle Farmland
28085054	85	20 Timberland	64 Idle Farmland
28085064	85	20 Timberland	62 Improved Pasture
Lowndes County			
28087021	87	62 Improved Pasture	20 Timberland
28087024	87	92 Noncensus Water	20 Timberland
28087033	87	20 Timberland	62 Improved Pasture
28087037	87	91 Census Water	20 Timberland
Madison County			
28089010	89	20 Timberland	62 Improved Pasture
28089030	89	20 Timberland	64 Idle Farmland
28089031	89	20 Timberland	62 Improved Pasture
28089032	89	20 Timberland	62 Improved Pasture
28089044	89	20 Timberland	62 Improved Pasture
28089066	89	20 Timberland	62 Improved Pasture
28089069	89	20 Timberland	64 Idle Farmland
Marion County			
28091001	91	20 Timberland	62 Improved Pasture
28091016	91	20 Timberland	62 Improved Pasture
Marshall County			
28093006	93	62 Improved Pasture	20 Timberland
28093009	93	20 Timberland	61 Cropland
28093061	93	20 Timberland	64 Idle Farmland
28093072	93	20 Timberland	64 Idle Farmland
28093076	93	20 Timberland	61 Cropland
28093078	93	20 Timberland	62 Improved Pasture
Monroe County			
28095004	95	20 Timberland	61 Cropland
28095012	95	20 Timberland	61 Cropland
28095030	95	62 Improved Pasture	20 Timberland
28095047	95	91 Census Water	20 Timberland

TABLE 43 (Continued)

Plot ID	Co	Ground Use 1987	Ground Use 1977
Montgomery County			
28097013	97	20 Timberland	62 Improved Pasture
28097014	97	20 Timberland	62 Improved Pasture
28097040	97	62 Improved Pasture	20 Timberland
28097041	97	20 Timberland	62 Improved Pasture
28097047	97	62 Improved Pasture	20 Timberland
Neshoba County			
28099007	99	20 Timberland	64 Idle Farmland
28099009	99	20 Timberland	62 Improved Pasture
28099025	99	20 Timberland	62 Improved Pasture
28099029	99	20 Timberland	62 Improved Pasture
28099031	99	61 Cropland	20 Timberland
28099036	99	20 Timberland	62 Improved Pasture
28099045	99	20 Timberland	62 Improved Pasture
Newton County			
28101015	101	61 Cropland	20 Timberland
28101017	101	20 Timberland	62 Improved Pasture
28101021	101	62 Improved Pasture	20 Timberland
28101023	101	20 Timberland	62 Improved Pasture
28101030	101	20 Timberland	62 Improved Pasture
28101045	101	61 Cropland	20 Timberland
28101062	101	62 Improved Pasture	20 Timberland
28101069	101	20 Timberland	62 Improved Pasture
Noxubee County			
28103011	103	20 Timberland	61 Cropland
28103041	103	20 Timberland	62 Improved Pasture
28103059	103	20 Timberland	61 Cropland
Oktibbeha County			
28105016	105	20 Timberland	62 Improved Pasture
28105022	105	50 Reserved Timberland	20 Timberland
28105023	105	20 Timberland	61 Cropland
28105055	105	20 Timberland	61 Cropland
28105056	105	20 Timberland	62 Improved Pasture
Panola County			
28107036	107	62 Improved Pasture	20 Timberland
28107045	107	62 Improved Pasture	20 Timberland
Pearl River County			
28109037	109	67 Urban & Other	20 Timberland
28109056	109	20 Timberland	64 Idle Farmland
28109069	109	67 Urban & Other	20 Timberland
Perry County			
28111009	111	67 Urban & Other	20 Timberland
28111014	111	20 Timberland	62 Improved Pasture
28111031	111	20 Timberland	50 Reserved Timberland
28111049	111	50 Reserved Timberland	20 Timberland
Pike County			
28113002	113	20 Timberland	67 Urban & Other
28113006	113	20 Timberland	62 Improved Pasture

TABLE 43 (Continued)

Plot ID	Co	Ground Use 1987	Ground Use 1977
28113016	113	20 Timberland	61 Cropland
28113026	113	67 Urban & Other	20 Timberland
28113028	113	20 Timberland	67 Urban & Other
Pontotoc County			
28115006	115	20 Timberland	62 Improved Pasture
28115020	115	20 Timberland	62 Improved Pasture
28115032	115	67 Urban & Other	20 Timberland
28115037	115	20 Timberland	61 Cropland
28115040	115	20 Timberland	62 Improved Pasture
Prentiss County			
28117032	117	20 Timberland	99 Inaccessible
28117036	117	20 Timberland	62 Improved Pasture
28117041	117	20 Timberland	62 Improved Pasture
28117042	117	20 Timberland	62 Improved Pasture
Rankin County			
28121012	121	62 Improved Pasture	20 Timberland
28121015	121	20 Timberland	64 Idle Farmland
28121034	121	20 Timberland	67 Urban & Other
28121036	121	67 Urban & Other	20 Timberland
28121053	121	67 Urban & Other	20 Timberland
28121062	121	67 Urban & Other	20 Timberland
28121071	121	20 Timberland	62 Improved Pasture
28121072	121	20 Timberland	67 Urban & Other
Scott County			
28123002	123	67 Urban & Other	20 Timberland
28123035	123	20 Timberland	62 Improved Pasture
28123067	123	67 Urban & Other	20 Timberland
Simpson County			
28127043	127	20 Timberland	62 Improved Pasture
28127058	127	67 Urban & Other	20 Timberland
Smith County			
28129019	129	20 Timberland	62 Improved Pasture
28129060	129	20 Timberland	64 Idle Farmland
28129061	129	20 Timberland	62 Improved Pasture
Stone County			
28131060	131	67 Urban & Other	20 Timberland
Sunflower County			
28133012	133	61 Cropland	20 Timberland
Tate County			
28137001	137	20 Timberland	67 Urban & Other
28137007	137	20 Timberland	62 Improved Pasture
28137025	137	64 Idle Farmland	20 Timberland
28137047	137	61 Cropland	20 Timberland
28137048	137	20 Timberland	62 Improved Pasture
Tippah County			
28139006	139	20 Timberland	62 Improved Pasture

TABLE 43 (Continued)

Plot ID	Co	Ground Use 1987	Ground Use 1977
28139022	139	20 Timberland	62 Improved Pasture
28139025	139	20 Timberland	62 Improved Pasture
28139029	139	20 Timberland	61 Cropland
28139037	139	20 Timberland	67 Urban & Other
28139039	139	20 Timberland	67 Urban & Other
28139049	139	20 Timberland	61 Cropland
Tishomingo County			
28141015	141	67 Urban & Other	20 Timberland
28141037	141	67 Urban & Other	20 Timberland
28141046	141	20 Timberland	67 Urban & Other
28141047	141	20 Timberland	64 Idle Farmland
Tunica County			
28143035	143	61 Cropland	20 Timberland
Union County			
28145020	145	20 Timberland	61 Cropland
28145022	145	20 Timberland	61 Cropland
28145035	145	20 Timberland	62 Improved Pasture
28145039	145	20 Timberland	62 Improved Pasture
Walthall County			
28147003	147	20 Timberland	61 Cropland
28147008	147	67 Urban & Other	20 Timberland
28147009	147	20 Timberland	61 Cropland
28147014	147	20 Timberland	64 Idle Farmland
28147015	147	20 Timberland	64 Idle Farmland
28147040	147	20 Timberland	62 Improved Pasture
28147046	147	20 Timberland	62 Improved Pasture
Warren County			
28149008	149	61 Cropland	20 Timberland
28149031	149	20 Timberland	62 Improved Pasture
28149035	149	61 Cropland	20 Timberland
28149046	149	61 Cropland	20 Timberland
28149048	149	64 Idle Farmland	20 Timberland
Washington County			
28151048	151	20 Timberland	99 Inaccessible
28151060	151	20 Timberland	67 Urban & Other
Wayne County			
28153009	153	20 Timberland	62 Improved Pasture
28153021	153	62 Improved Pasture	20 Timberland
28153044	153	67 Urban & Other	20 Timberland
28153045	153	62 Improved Pasture	20 Timberland
28153052	153	20 Timberland	62 Improved Pasture
Webster County			
28155044	155	20 Timberland	61 Cropland
Wilkinson County			
28157043	157	20 Timberland	62 Improved Pasture
28157048	157	20 Timberland	62 Improved Pasture

TABLE 43 (Continued)

Plot ID	Co	Ground Use 1987	Ground Use 1977
28157058	157	20 Timberland	61 Cropland
Winston County			
28159057	159	20 Timberland	67 Urban & Other
Yalobusha County			
28161006	161	67 Urban & Other	20 Timberland
28161015	161	67 Urban & Other	20 Timberland
28161031	161	20 Timberland	62 Improved Pasture
Yazoo County			
28163012	163	61 Cropland	20 Timberland
28163046	163	67 Urban & Other	20 Timberland
28163063	163	20 Timberland	62 Improved Pasture
28163073	163	66 Other Farmland	20 Timberland
28163074	163	61 Cropland	20 Timberland

TABLE 44

MISSISSIPPI PRODUCTIVITY MEASURES FOR CROPS

Plot ID	Soil Type	Soil #	Map Index -Section	Cotton (Lb.)	Corn (Bu.)	Soybeans (Bu.)	Oats (Bu.)
Adams County							
28001010	Memphis	MeF	40	300	30	*	25
28001019	Memphis	MeB2	39	750	80	35	70
28001021	Memphis	MeB2	53	750	80	35	70
28001023	Memphis	MeF	46	300	30	*	25
28001032	Memphis	MeF	9	300	30	*	25
28001034	Memphis	MeA	20	800	85	35	75
28001038	Memphis	MeC2	45	675	75	30	70
Alcorn County							
28003001	Cahaba-Ruston	CrE	12-1	*	*	*	*
28003030	Providence	PdC3	34-5	450	45	20	50
28003051	Ruston-Linker	RtE	20-33	*	*	*	*
Amite County							
28005004	Providence	PrB	36-2	750	75	35	*
28005017	Providence	PrB	6-11	750	75	35	*
28005033	Providence	PrB	5-14	750	75	35	*
28005045	Providence	PrB	33-5	750	75	35	*
Benton County							
28009001	Udorthents-Lexington	UdF3	9-10	*	*	*	*
28009008	Sweatman-Smithdale	SsF	28-24	*	*	*	*
28009016	Lexington	LeB2	20-14	750	85	35	*
28009029	Udorthents-Lexington	UdF3	20-17	*	*	*	*
28009034	Smithdale-Lexington	SlF	19-14	*	*	*	*
Bolivar County							
28011062	Sharkey	Sb	87-25	450	65	25	65
28011096	Sharkey	Sb	86-33	450	65	25	65
Calhoun County							

TABLE 44 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Cotton (Lb.)	Corn (Bu.)	Soybeans (Bu.)	Oats (Bu.)
28013012	Cuthbert,Dulac,Ruston	CrE	42-8	*	*	*	*
28013013	Cuthbert,Dulac,Ruston	CrE	35-32	*	*	*	*
28013021	Falaya	Fb	62-4	750	85	40	*
28013039	Hatchie	HaA	39-10	600	65	25	*
Carroll County							
28015004	Arkabutla		22 57-6	*	*	*	*
28015009	Grenada		4B 45-4	650	80	35	*
28015015	Smith-Prov-Lexington		9F 37-28	*	*	*	*
28015024	Smith-Prov-Lexington		9F 14-28	*	*	*	*
28015037	Memphis		6E3 19-7	*	*	*	*
28015042	Loring		5D3 8-10	*	*	*	*
28015047	Gullied Land-Loring		46 34-27	*	*	*	*
28015050	Loring-Memphis		34E 48-30	*	*	*	*
Chickasaw County							
28017019	Brewton	Br	31-28	*	60	35	50
28017024	Cahaba	CaF	4-9	800	90	35	
28017035	Adaton	Ad	19-30	550	70	30	50
28017040	Mayhew	MW	8-35	*	*	30	50
Choctaw County							
28019016	Smithdale-Maben	SN	5-24	*	*	*	*
28019040	Smithdale-Ruston	SR	33-18	*	*	*	*
28019043	Smithdale-Sweatman	SS	18-8	*	*	*	*
Claiborne County							
28021016	Loring-Memphis	LmC	33	500	75	35	60
28021033	Memphis-Natchez	MnF3	31	*	*	*	*
Clarke County							
28023001	Lauderdale-Boswell	LbF	17-19	*	*	*	*
28023019	Boswell,Cuthbert	BtF	105-27	*	*	*	*

TABLE 44 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Cotton (Lb.)	Corn (Bu.)	Soybeans (Bu.)	Oats (Bu.)
28023034	Leaf	Lf	113-4	*	*	*	*
28023062	Bibb-Chastain	BC	65-22	*	*	*	*
Clay County							
28025004	Kipling	KpB2	52-22	550	50	25	55
28025040	Ora	OrB	20-12	700	80	35	60
Copiah County							
28029008	Oaklimeter	OK	37-6	750	95	40	*
28029024	Saffell	SaE	13-29	*	*	*	*
28029046	Gillsburg	Gb	42-23	650	90	35	*
28029052	Saffell-Smithdale	SF	33-18	*	*	*	*
Covington County							
28031019	Ruston	RSB2	35-20	450	50	*	40
De Soto County							
28033016	Falaya	Fa	36-35	750	100	40	*
28033034	Memphis	Ma	12-16	600	65	25	*
Forrest County							
28035005	Jena-Nugent	JN	17-14	*	*	*	*
George County							
28039008	Lucedale	Lua	28-17	*	70	32	65
28039014	Susquehanna-Benndale	SxE	10-35	*	*	*	*
28039016	Eustis	EsD	22-35	*	*	*	*
28039031	Atmore	AtA	32-31	*	*	*	*
28039037	Leaf-Lenorr	Lf	7-43	*	*	*	*
28039039	Leaf-Lenorr	Lf	19	*	*	*	*
28039040	Leaf-Lenorr	Lf	19	*	*	*	*
28039041	Leaf-Lenorr	Lf	25	*	*	*	*
28039042	Atmore	AtA	31-36	*	*	*	*

TABLE 44 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Cotton (Lb.)	Corn (Bu.)	Soybeans (Bu.)	Oats (Bu.)
Grenada County							
28043003	Dulac	DuC3	50-26	400	30	15	50
28043008	Ruston-Rovidence	RpF	7-17	*	*	*	*
28043025	Ruston-Curhbert	RcF	37-17	*	*	*	*
28043039	Memphis-Siltlong	MeF	66-15	*	*	*	*
28043044	Memphis-Siltlong	MeF	65-18	*	*	*	*
Hancock County							
28045009	Plummer	Pe	31-27	*	*	*	*
28045037	McLaurin	McB	16-9	*	75	25	*
Harrison County							
28047051	Handsboro	Ha	45-24	*	*	*	*
28047052	Poarch	PoB	38-36	*	80	30	*
28047063	Poarch	PoB	25-3	*	*	*	*
28047065	Poarch	PoB	37-34	*	*	*	*
Hinds County							
28049008	Loring-Urban	LuC	26-29	*	*	*	*
28049015	Byram-Urban	BuC	49-1	*	*	*	*
28049019	Bonn-Deerford	BD	70-25	*	*	*	*
28049027	Loring silt	LoC3	25-29	600	65	*	*
28049035	Loring loam	LoB2	32-1	700	90	30	*
28049042	Providence	PoC2	68-32	650	70	30	*
28049074	Memphis-Natchez	MN	7-29	*	*	*	*
28049075	Memphis	MeB2	7-20	750	90	35	*
28049079	Memphis	MeD2	21-33	600	65	25	*
28049099	Smithdale-Lexington-Memphis	SW	71-23	*	*	*	*
Issaquena County							
28055012	Sharkey-Dowling	Sr	24-10	*	*	*	*
28055015	Sharkey-Dowling	Sr	29-20	*	*	*	*
28055023	Tunica	Ta	21-37	600	50	40	55
28055040	Bowdre	Bk	16-13	550	45	25	50

TABLE 44 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Cotton (Lb.)	Corn (Bu.)	Soybeans (Bu.)	Oats (Bu.)
Itawamba County							
28057014	Jena-Kirkville	JK	29-6	*	*	*	*
28057039	Kirkville-Mantachie	KR	17-2	*	*	*	*
28057044	Smithdale	SmF	37-41	*	*	*	*
Jackson County							
28059034	Rains	Ra	45-24	*	*	*	*
28059035	Ruston-Orangeburg	RoB	37-12	*	70	*	60
28059040	Alluvial	Ad	4-15	*	*	*	*
28059080	Goldsboro	GoB	33-11	*	60	*	40
Jasper County							
28061001	Sweatman-Smithdale	SyE	11-23	*	*	*	*
28061019	Vaiden	VaB	10-22	450	40	40	*
28061022	Sweatman-Smithdale	SyE	26-15	*	*	*	*
28061043	Susquehanna	SnB	35-16	*	*	20	*
28061049	Smithdale	SdE	30-29	*	*	*	*
28061054	Vaiden	VaC	8-20	*	*	*	*
28061072	Sweatman	StD2	17-19	*	*	*	*
Jefferson County							
28063020	Collins	CA	33-5	800	110	40	*
28063021	Memphis	MeF3	33-8	*	*	*	*
28063034	Smithdale-Lexington	SX	38-35	*	*	*	*
28063036	Falaya	Fa	31-18	750	100	40	*
28063043	Memphis-Natchez	Mn	15-31	*	*	*	*
Jefferson Davis County							
28065005	Savannah	SbB	30-22	650	75	35	55
28065015	Ruston	RuB	15-2	500	60	30	60
28065038	Ruston	RuD3	7-9	400	50	25	50
Jones							
28067004	Malbis	43C	30-21	80	80	30	*

TABLE 44 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Cotton (Lb.)	Corn (Bu.)	Soybeans (Bu.)	Oats (Bu.)
28067048	Malbis	43B	38-36	95	95	37	*
28067055	Smithdale	34E	8-16	*	*	*	*
Lafayette County							
28071002	Marben	50	18-26	*	*	*	*
Lamar County							
28073010	McLaurin	McB	34-9	715	75	30	60
28073012	McLaurin	McB	26-16	715	75	30	60
28073054	McLaurin-Lucy	Mlc	15-6	*	*	*	*
28073056	McLaurin	McC	7-9	*	50	20	40
Lauderdale County							
28075044	Quitman	QaA	36-4	*	80	30	*
28075045	Sweatman	SmD2	28-29	*	*	*	*
28075049	Savannah	SaB	10-14	*	*	*	*
28075052	Arundel-Sweatman	AS	26-25	*	*	*	*
28075064	Quitman	QaA	2-13	*	80	30	*
28075078	Arundel-Sweatman	AS	17-8	*	*	*	*
Lawrence							
28077033	Cadeville & Falkner	CgC	16-26	*	*	*	*
Lee County							
28081014	Leeper	Le	17-12	750	80	40	75
28081039	Tippah	ThB2	20-21	650	75	30	70
Leflore County							
28083004	Alligator	Ac	42-12	300	55	15	35
28083039	Forestdale	Fe	47-10	450	55	20	20
Lincoln County							
28085026	Ruston	RuF	83-7	*	*	*	*
28085029	Bude	BuB2	51-31	600	75	*	55

TABLE 44 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Cotton (Lb.)	Corn (Bu.)	Soybeans (Bu.)	Oats (Bu.)
28085033	Guin-Boswell	GgF2	16-16	*	*	*	*
28085038	Bude	BuB2	74-33	600	75	*	55
28085043	Providence	PrB2	74-32	650	70	*	60
28085045	Providence	PrC2	50-32	600	70	*	50
28085046	Providence	PrB3	34-8	650	70	*	60
28085051	Guin-Boswell	GgF	33-11	*	*	*	*
28085054	Bude	BuB2	73-35	600	75	*	55
28085064	Providence	PrB2	14-16	650	70	*	60
Lowndes County							
28087021	Prentiss	PuA	21-26	750	85	30	*
28087024	Sumter	SuB2	41-22	*	*	25	*
28087033	Prentiss	PuA	12-21	750	85	30	*
28087037	Cahaba	CbA	11-24	800	90	35	*
Madison County							
28089010	Providence	PoC2	14-7	650	70	30	*
28089030	Providence	PoC2	9-22	650	70	30	*
28089031	Providence	PoC2	13-10	650	70	30	*
28089032	Oaklimeter-Ariel-Gillburg	OG	13- 3	*	*	*	*
28089044	Providence-Lexington	PrD2	18-19	*	*	*	*
28089066	Loring	LoC2	56-22	650	70	35	*
28089069	Loring	LoB2	52-31	700	90	40	*
Marion County							
28091001	Johnston-Croatan	Jt	7-23	*	*	*	*
28091016	Petal-Susquehanna	Ps	41-22	*	*	*	*
Marshall County							
28093006	Luverne-Susquehanna	LsF	52-8	*	*	*	*
28093009	Luverne-Susquehanna	LsF	53-14	*	*	*	*
28093061	Loring	LoB2	12-24	735	80	33	*
28093072	Gullied land-Cahaba	GuE	48-8	*	*	*	*
28093076	Loring	LoC	16-13	600	60	25	*
28093078	Providence-Cahaba	PuE	11-24	*	*	*	*

TABLE 44 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Cotton (Lb.)	Corn (Bu.)	Soybeans (Bu.)	Oats (Bu.)
Monroe County							
28095004	Ora	OrC3	59-13	600	60	22	80
28095012	Ruston	RfB	68-33	700	65	27	75
28095030	Greenville	GrA	66-32	750	65	30	75
28095047	Vaiden	VaC	83-27	550	*	28	55
Montgomery County							
28097013	Smithdale-Sweatman-Providence	SSE	4-35	*	*	*	*
28097014	Smithdale-Sweatman-Providence	SSE	3-33	*	*	*	*
28097040	Providence	PrB3	13-12	500	50	25	*
28097041	Smithdale-Providence	SpE	9-25	*	*	*	*
28097047	Smithdale-Providence	SpE	13-9	*	*	*	*
Neshoba County							
28099007	Sweatman	SwD2	42-11	*	*	*	*
28099009	Bibb	Bb	47-32	*	100	35	*
28099025	Sweatman	SX	40-8	*	*	*	*
28099029	Bibb-Mantachie	BM	34-31	*	*	*	*
28099031	Bibb	Bb	28-6	*	100	35	*
28099036	Rosebloom-Arkabutla	RA	3-15	*	*	*	*
28099045	Smithdale	SmF	38-8	*	*	*	*
Newton County							
28101015	Nacogdoches	NbF3	16-29	300	25	*	40
28101017	Nacogdoches	NbD3	15-6	250	25	*	30
28101021	Ruston	RaD2	14-22	300	25	*	35
28101023	Ora & Dulac	OcC2	21-15	300	25	*	40
28101030	Ruston	RaD	22-31	350	30	*	40
28101045	Vaiden-Eutaw	VaB	28-28	*	*	*	*
28101062	Binnsville	BbB2	25-14	*	*	*	*
28101069	Bibb	Ba	10-30	*	*	*	*
Noxubee County							
28103011	Vaiden	VaA	20-11	500	45	30	*

TABLE 44 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Cotton (Lb.)	Corn (Bu.)	Soybeans (Bu.)	Oats (Bu.)
28103041	Wilcox-Falkner	WF	54-32	*	*	*	*
28103059	Smithdale	SmD2	53-32	400	50	25	*
Oktibbeha County							
28105016	Oktibbeha	OtE3	10-24	*	*	*	*
28105022	Maben-Ruston	MrF	32-28	*	*	*	*
28105023	Urbo	Ur	32-21	*	*	*	*
28105055	Mathiston	Mu	7-22	600	75	32	60
28105056	Longview	LoA	1-10	420	45	22	55
Panola County							
28107036	Memphis	MeB2	2-25	*	*	*	*
28107045	Henry	He	110-29	*	*	25	*
Pearl River County							
28109037	Malbis,Saucier	Me	41-2	*	80	30	*
28109056	Malbis-Saucier	Md	20-23	*	80	30	*
28109069	Smithton	SP	54-16	*	*	25	*
Pike County							
28113002	Cahaba	CaF	23-4	*	*	*	*
28113006	Savannah	SnB2	59-4	625	75	55	*
28113016	Savannah	SnB2	10-13	625	75	55	*
28113026	Saffell	SaF	56-11	*	*	*	*
28113028	Ora	OfB2	44-14	600	70	50	*
Pontotoc County							
28115006	Kipling	KlD2	33-10	*	*	*	*
28115020	Oktibbeha-Ruston	OKE	32-12	*	*	*	*
28115032	Arkabutla	Ar	20-14	675	90	35	*
28115037	Mayhew	MsA	30-8	*	*	30	*
28115040	Frizzell	FlA	14-20	575	60	30	*
Prentiss County							

TABLE 44 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Cotton (Lb.)	Corn (Bu.)	Soybeans (Bu.)	Oats (Bu.)
28117032	Shubta	Sk		*	*	*	*
28117036	Ruston	Rb		700	90	*	80
28117041	Shubta	Sk		*	*	*	*
28117042	Oktibbeha	Og		*	*	*	*
Rankin County							
28121012	Smithdale-Providence	64F	51-31	*	*	*	*
28121015	Providence	41B2	30-7	700	80	35	*
28121034	Providence	41C2	64-32	650	70	30	*
28121036	Providence-Tippah	66B	50-32	675	80	35	*
28121053	Savannah-Quitman	50B	63-36	600	75	30	*
28121062	Savannah	49C2	16-4	600	70	30	*
28121071	Kirkville	7	55-7	700	95	40	*
28121072	Smithdale-Providence	64F	62-31	*	*	*	*
Sunflower County							
28133012	Alligator	Ab	49-12	35	50	40	50
Tate County							
28137001	Collins	Cm		850	105	40	80
28137007	Grenada	Gs	30-33	635	70	30	65
28137025	Collins	Cm	59-33	850	105	40	80
28137047	Memphis	MeB2	55-32	825	90	40	75
28137048	Adler, Morganfield	Ag	66-7	800	105	35	80
Tippah County							
28139006	Gullied Land sandy	GN	72-19	*	*	*	*
28139022	Atwood	AtC3	70-21	675	80	25	75
28139025	Providence	PdB3	42-9	600	60	18	75
28139029	Gullied Land Clay	GC	15-21	*	*	*	*
28139037	Gullied Land sandy	GN	55-36	*	*	*	*
28139039	Atwood	AtD3	69-24	650	75	25	70
28139049	Ruston-Cuthbert	RsF	13-21	*	*	*	*

TABLE 44 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Cotton (Lb.)	Corn (Bu.)	Soybeans (Bu.)	Oats (Bu.)
Tishomingo County							
28141015	Smithdale-Ruston	SR	5-11	600	65	25	*
28141037	Smithdale-Ruston	SR	10-31	600	65	25	*
28141046	Smithdale-Ruston	SR	23-35	600	65	25	*
28141047	Smithdale-Ruston	SR	23-2	600	65	25	*
Tunica County							
28143035	Sharkey-Dowling	Sc		*	*	*	*
Union County							
28145020	Providence	PrB2	17-15	700	80	30	*
28145022	Providence	PrB2	29-17	700	80	30	*
28145035	Tippah	TpC2	15-14	600	70	30	*
28145039	Smithdale-Sweatman	SwF	8-29	*	*	*	*
Walthall County							
28147003	Ora	OrB2	29-8	650	75	*	55
28147008	Ora	OrB2	22-30	650	75	*	55
28147009	Ruston	RuB2	27-7	700	90	*	80
28147014	Ora	OrC2	17-16	600	70	*	50
28147015	Ruston	RuB2	17-4	700	90	*	80
28147040	Ruston	RuC2	25-3	650	60	*	55
28147046	Ochlockockonee	OC	15-13	725	95	*	65
Warren County							
28149008	Memphis	MnF2	32-22	600	65	25	*
28149031	Memphis	MnF2	68-26	600	65	25	*
28149035	Memphis	MnF2	75-13	600	65	25	*
28149046	Memphis	MnF2	66	600	65	25	*
28149048	Memphis	MnF2	81	600	65	25	*
Washington County							
28151048	Tunica	Ta	38-36	600	50	40	55
28151060	Sharkey	Sb	11-11	400	45	40	40

TABLE 44 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Cotton (Lb.)	Corn (Bu.)	Soybeans (Bu.)	Oats (Bu.)
Webster County							
28155044	Smithdale-Ora	SoE	26-9	*	*	*	*
Yalobusha County							
28161006	Maben-Smidale	MaE	32-2	*	*	*	*
28161015	Collins	CN	10-11	800	110	40	*
28161031	Smithdale-Providence	StF	8-11	*	*	*	*
Yazoo County							
28163012	Morganfield	Mo	56-7	950	120	45	75
28163046	Memphis-Natchez	MnE	42-22	*	*	*	*
28163063	Memphis-Natchez	MnE	73-21	*	*	*	*
28163073	Sharkey & Forestdale	Sf	32-8	500	*	35	45
28163074	Sharkey	Sc	51-5	500	*	35	45

TABLE 45

MISSISSIPPI PRODUCTIVITY MEASURES FOR PASTURE AND TIMBER

Plot ID	Soil Type	Soil #	Map Index -Section	Pasture (A.U.M.)	Site Index
Adams County					
28001010	Memphis	MeF	40	5.5	100
28001019	Memphis	MeB2	39	8.5	100
28001021	Memphis	MeB2	53	8.5	100
28001023	Memphis	MeF	46	5.5	100
28001032	Memphis	MeF	9	5.5	100
28001034	Memphis	MeA	20	10.0	100
28001038	Memphis	MeC2	45	8.5	100
Alcorn County					
28003001	Cahaba-Ruston	CrE	12-1	10.0	90
28003030	Providence	PdC3	34-5	8.0	85
28003051	Ruston-Linker	RtE	20-33	10.0	85
Amite County					
28005004	Providence	PrB	36-2	8.0	90
28005017	Providence	PrB	6-11	8.0	90
28005033	Providence	PrB	5-14	8.0	90
28005045	Providence	PrB	33-5	8.0	90
Benton County					
28009001	Udorthents-Lexington	UdF3	9-10	*	70
28009008	Sweatman-Smithdale	SsF	28-24	*	75
28009016	Lexington	LeB2	20-14	7.5	75
28009029	Udorthents-Lexington	UdF3	20-17	*	70
28009034	Smithdale-Lexington	SlF	19-14	*	75
Bolivar County					
28011062	Sharkey	Sb	87-25	4.5	85
28011096	Sharkey	Sb	86-33	4.5	85

TABLE 45 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Pasture (A.U.M.)	Site Index
Calhoun County					
28013012	Cuthbert,Dulac,Ruston	CrE	42-8	7.0	78
28013013	Cuthbert,Dulac,Ruston	CrE	35-32	7.0	78
28013021	Falaya	Fb	62-4	8.0	95
28013039	Hatchie	HaA	39-10	7.0	78
Carroll County					
28015004	Arkabutla		22 57-6	6.0	70
28015009	Grenada		4B 45-4	7.0	75
28015015	Smith-Prov-Lexington		9F 37-28	*	70
28015024	Smith-Prov-Lexington		9F 14-28	*	70
28015037	Memphis		6E3 19-7	4.5	90
28015042	Loring		5D3 8-10	4.5	74
28015047	Gullied Land-Loring		46 34-27	*	87
28015050	Loring-Memphis		34E 48-30	5.0	90
Chickasaw County					
28017019	Brewton	Br	31-28	6.0	88
28017024	Cahaba	CaF	4-9	10.0	91
28017035	Adaton	Ad	19-30	7.0	85
28017040	Mayhew	MW	8-35	6.5	85
Choctaw County					
28019016	Smithdale-Maben	SN	5-24	*	80
28019040	Smithdale-Ruston	SR	33-18	*	80
28019043	Smithdale-Sweatman	SS	18-8	*	80
Claiborne County					
28021016	Loring-Memphis	LmC	33	6.0	90
28021033	Memphis-Natchez	MnF3	31	*	100
Clarke County					
28023001	Lauderdale-Boswell	LbF	17-19	*	80
28023019	Boswell,Cuthbert	BtF	105-27	6.5	80

TABLE 45 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Pasture (A.U.M.)	Site Index
28023034	Leaf	Lf	113-4	6.5	90
28023062	Bibb-Chastain	BC	65-22	*	90
Clay County					
28025004	Kipling	KpB2	52-22	6.0	90
28025040	Ora	OrB	20-12	7.0	85
Copiah County					
28029008	Oaklimeter	OK	37-6	9.0	90
28029024	Saffell	SaE	13-29	3.0	70
28029046	Gillsburg	Gb	42-23	7.0	90
28029052	Saffell-Smithdale	SF	33-18	3.0	70
Covington County					
28031019	Ruston	RSB2	35-20	12.0	68
DeSoto County					
28033016	Falaya	Fa	36-35	10.5	104
28033034	Memphis	Ma	12-16	6.0	105
Forrest County					
28035005	Jena-Nugent	JN	17-14	6.5	95
George County					
28039008	Lucedale	Lua	28-17	10.5	80
28039014	Susquehanna-Benndale	SxE	10-35	*	70
28039016	Eustis	EsD	22-35	3.8	80
28039031	Atmore	AtA	32-31	7.0	80
28039037	Leaf-Lenorr	Lf	7-43	*	90
28039039	Leaf-Lenorr	Lf	19	*	90
28039040	Leaf-Lenorr	Lf	19	*	90
28039041	Leaf-Lenorr	Lf	25	*	90
28039042	Atmore	AtA	31-36	7.0	80

TABLE 45 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Pasture (A.U.M.)	Site Index
Grenada County					
28043003	Dulac	DuC3	50-26	2.5	70
28043008	Ruston-Rovidence	RpF	7-17	*	75
28043025	Ruston-Curhbert	RcF	37-17	*	70
28043039	Memphis-Siltlong	MeF	66-15	2.5	85
28043044	Memphis-Siltlong	MeF	65-18	2.5	85
Hancock County					
28045009	Plummer	Pe	31-27	6.0	91
28045037	McLaurin	McB	16-9	10.0	90
Harrison County					
28047051	Handsboro	Ha	45-24	*	90
28047052	Poarch	PoB	38-36	9.0	90
28047063	Poarch	PoB	25-3	*	90
28047065	Poarch	PoB	37-34	*	90
Hinds County					
28049008	Loring-Urban	LuC	26-29	*	90
28049015	Byram-Urban	BuC	49-1	*	75
28049019	Bonn-Deerford	BD	70-25	*	90
28049027	Loring silt	LoC3	25-29	6.0	90
28049035	Loring loam	LoB2	32-1	7.5	90
28049042	Providence	PoC2	68-32	7.5	80
28049074	Memphis-Natchez	MN	7-29	5.5	100
28049075	Memphis	MeB2	7-20	7.5	105
28049079	Memphis	MeD2	21-33	6.0	105
28049099	Smithdale-Lexington-Memphis	SW	71-23	5.0	90
Issaquena County					
28055012	Sharkey-Dowling	Sr	24-10	*	85
28055015	Sharkey-Dowling	Sr	29-20	*	85
28055023	Tunica	Ta	21-37	6.4	100
28055040	Bowdre	Bk	16-13	6.4	95

TABLE 45 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Pasture (A.U.M.)	Site Index
Itawamba County					
28057014	Jena-Kirkville	JK	29-6	*	100
28057039	Kirkville-Mantachie	KR	17-2	*	95
28057044	Smithdale	SmF	37-41	*	80
Jackson County					
28059034	Rains	Ra	45-24	2.4	80
28059035	Ruston-Orangeburg	RoB	37-12	3.0	95
28059040	Alluvial	Ad	4-15	*	80
28059080	Goldsboro	GoB	33-11	3.0	90
Jasper County					
28061001	Sweatman-Smithdale	SyE	11-23	*	83
28061019	Vaiden	VaB	10-22	4.5	76
28061022	Sweatman-Smithdale	SyE	26-15	*	83
28061043	Susquehanna	SnB	35-16	*	78
28061049	Smithdale	SdE	30-29	9.0	86
28061054	Vaiden	VaC	8-20	4.5	76
28061072	Sweatman	StD2	17-19	5.5	80
Jefferson County					
28063020	Collins	CA	33-5	12.0	95
28063021	Memphis	MeF3	33-8	4.5	104
28063034	Smithdale-Lexington	SX	38-35		86
28063036	Falaya	Fa	31-18	10.5	104
28063043	Memphis-Natchez	Mn	15-31	5.0	105
Jefferson Davis County					
28065005	Savannah	SbB	30-22	8.5	90
28065015	Ruston	RuB	15-2	10.0	90
28065038	Ruston	RuD3	7-9	5.0	90
Jones					
28067004	Malbis	43C	30-21	5.0	85

TABLE 45 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Pasture (A.U.M.)	Site Index
28067048	Malbis	43B	38-36	5.5	90
28067055	Smithdale	34E	8-16	4.5	90
Lafayette County					
28071002	Marben	50	18-26	*	83
Lamar County					
28073010	McLaurin	McB	34-9	10.0	90
28073012	McLaurin	McB	26-16	10.0	90
28073054	McLaurin-Lucy	Mlc	15-6	6.5	90
28073056	McLaurin	McC	7-9	6.5	90
Lauderdale County					
28075044	Quitman	QaA	36-4	10.0	92
28075045	Sweatman	SmD2	28-29	5.5	83
28075049	Savannah	SaB	10-14	8.5	90
28075052	Arundel-Sweatman	AS	26-25	7.5	83
28075064	Quitman	QaA	2-13	10.0	92
28075078	Arundel-Sweatman	AS	17-8	7.5	83
Lawrence					
28077033	Cadeville & Falkner	CgC	16-26	7.5	80
Lee County					
28081014	Leeper	Le	17-12		95
28081039	Tippah	ThB2	20-21		78
Leflore County					
28083004	Alligator	Ac	42-12	6.0	95
28083039	Forestdale	Fe	47-10	5.5	90
Lincoln County					
28085026	Ruston	RuF	83-7	*	90
28085029	Bude	BuB2	51-31	5.0	100

TABLE 45 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Pasture (A.U.M.)	Site Index
28085033	Guin-Boswell	GgF2	16-16	9.0	80
28085038	Bude	BuB2	74-33	5.0	100
28085043	Providence	PrB2	74-32	5.0	84
28085045	Providence	PrC2	50-32	5.0	84
28085046	Providence	PrB3	34-8	5.0	84
28085051	Guin-Boswell	GgF	33-11	9.0	80
28085054	Bude	BuB2	73-35	5.0	100
28085064	Providence	PrB2	14-16	5.0	84
Lowndes County					
28087021	Prentiss	PuA	21-26	9.0	88
28087024	Sumter	SuB2	41-22	*	40
28087033	Prentiss	PuA	12-21	9.0	88
28087037	Cahaba	CbA	11-24	10.0	91
Madison County					
28089010	Providence	PoC2	14-7	9.0	84
28089030	Providence	PoC2	9-22	9.0	84
28089031	Providence	PoC2	13-10	9.0	84
28089032	Oaklimeter-Ariel-Gillburg	OG	13- 3	8.0	90
28089044	Providence-Lexington	PrD2	18-19	8.0	84
28089066	Loring	LoC2	56-22	8.5	85
28089069	Loring	LoB2	52-31	9.0	85
Marion County					
28091001	Johnston-Croatan	Jt	7-23	*	97
28091016	Petal-Susquehanna	Ps	41-22	6.0	90
Marshall County					
28093006	Luverne-Susquehanna	LsF	52-8	3.0	70
28093009	Luverne-Susquehanna	LsF	53-14	3.0	70
28093061	Loring	LoB2	12-24	6.5	85
28093072	Gullied land-Cahaba	GuE	48-8	*	90
28093076	Loring	LoC	16-13	5.5	85

TABLE 45 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Pasture (A.U.M.)	Site Index
28093078	Providence-Cahaba	PuE	11-24	4.0	80
Monroe County					
28095004	Ora	OrC3	59-13	7.5	90
28095012	Ruston	RfB	68-33	10.0	80
28095030	Greenville	GrA	66-32	10.0	80
28095047	Vaiden	VaC	83-27	9.0	80
Montgomery County					
28097013	Smithdale-Sweatman-Providence	SSE	4-35	*	80
28097014	Smithdale-Sweatman-Providence	SSE	3-33	*	80
28097040	Providence	PrB3	13-12	9.0	80
28097041	Smithdale-Providence	SpE	9-25	8.0	80
28097047	Smithdale-Providence	SpE	13-9	8.0	80
Neshoba County					
28099007	Sweatman	SwD2	42-11	*	83
28099009	Bibb	Bb	47-32	*	90
28099025	Sweatman	SX	40-8	*	83
28099029	Bibb-Mantachie	BM	34-31	*	90
28099031	Bibb	Bb	28-6	*	90
28099036	Rosebloom-Arkabutla	RA	3-15	*	100
28099045	Smithdale	SmF	38-8	*	80
Newton County					
28101015	Nacogdoches	NbF3	16-29	4.0	
28101017	Nacogdoches	NbD3	15-6	5.0	
28101021	Ruston	RaD2	14-22	4.0	80
28101023	Ora & Dulac	OcC2	21-15	4.0	90
28101030	Ruston	RaD	22-31	4.0	80
28101045	Vaiden-Eutaw	VaB	28-28	3.0	76
28101062	Binnsville	BbB2	25-14	4.0	75
28101069	Bibb	Ba	10-30	4.0	90

TABLE 45 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Pasture (A.U.M.)	Site Index
Noxubee County					
28103011	Vaiden	VaA	20-11	6.5	80
28103041	Wilcox-Falkner	WF	54-32	*	85
28103059	Smithdale	SmD2	53-32	9.0	80
Oktibbeha County					
28105016	Oktibbeha	OtE3	10-24	4.0	76
28105022	Maben-Ruston	MrF	32-28	*	83
28105023	Urbo	Ur	32-21	4.0	95
28105055	Mathiston	Mu	7-22	5.0	100
28105056	Longview	LoA	1-10	3.5	85
Panola County					
28107036	Memphis	MeB2	2-25	7.5	105
28107045	Henry	He	110-29	8.0	80
Pearl River County					
28109037	Malbis,Saucier	Me	41-2	9.0	90
28109056	Malbis-Saucier	Md	20-23	9.0	90
28109069	Smithton	SP	54-16	7.5	90
Pike County					
28113002	Cahaba	CaF	23-4	10.0	88
28113006	Savannah	SnB2	59-4	9.0	90
28113016	Savannah	SnB2	10-13	9.0	90
28113026	Saffell	SaF	56-11	4.0	88
28113028	Ora	OfB2	44-14	8.0	90
Pontotoc County					
28115006	Kipling	KlD2	33-10	4.0	76
28115020	Oktibbeha-Ruston	OKE	32-12	*	76
28115032	Arkabutla	Ar	20-14	10.0	98
28115037	Mayhew	MsA	30-8	8.0	86
28115040	Frizzell	FlA	14-20	6.0	86

TABLE 45 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Pasture (A.U.M.)	Site Index
Prentiss County					
28117032	Shubta	Sk		4.0	76
28117036	Ruston	Rb		10.0	88
28117041	Shubta	Sk		4.0	76
28117042	Oktibbeha	Og		4.0	76
Rankin County					
28121012	Smithdale-Providence	64F	51-31	8.5	84
28121015	Providence	41B2	30-7	9.5	84
28121034	Providence	41C2	64-32	9.0	84
28121036	Providence-Tippah	66B	50-32	9.0	84
28121053	Savannah-Quitman	50B	63-36	10.0	92
28121062	Savannah	49C2	16-4	8.0	81
28121071	Kirkville	7	55-7	8.0	95
28121072	Smithdale-Providence	64F	62-31	8.5	84
Sunflower County					
28133012	Alligator	Ab	49-12	5.5	95
Tate County					
28137001	Collins	Cm		10.9	105
28137007	Grenada	Gs	30-33	9.6	85
28137025	Collins	Cm	59-33	10.9	105
28137047	Memphis	MeB2	55-32	9.6	85
28137048	Adler, Morganfield	Ag	66-7	10.9	105
Tippah County					
28139006	Gullied Land sandy	GN	72-19	*	75
28139022	Atwood	AtC3	70-21	8.0	75
28139025	Providence	PdB3	42-9	6.0	75
28139029	Gullied Land Clay	GC	15-21	*	75
28139037	Gullied Land sandy	GN	55-36	*	75
28139039	Atwood	AtD3	69-24	8.0	75
28139049	Ruston-Cuthbert	RsF	13-21	6.0	80

TABLE 45 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Pasture (A.U.M.)	Site Index
Tishomingo County					
28141015	Smithdale-Ruston	SR	5-11	12.0	80
28141037	Smithdale-Ruston	SR	10-31	12.0	80
28141046	Smithdale-Ruston	SR	23-35	12.0	80
28141047	Smithdale-Ruston	SR	23-2	12.0	80
Tunica County					
28143035	Sharkey-Dowling	Sc		*	85
Union County					
28145020	Providence	PrB2	17-15	9.0	84
28145022	Providence	PrB2	29-17	9.0	84
28145035	Tippah	TpC2	15-14	9.0	78
28145039	Smithdale-Sweatman	SwF	8-29	*	80
Walthall County					
28147003	Ora	OrB2	29-8	7.0	85
28147008	Ora	OrB2	22-30	7.0	85
28147009	Ruston	RuB2	27-7	10.0	85
28147014	Ora	OrC2	17-16	7.0	85
28147015	Ruston	RuB2	17-4	10.0	88
28147040	Ruston	RuC2	25-3	7.0	88
28147046	Ochlockockonee	OC	15-13	7.0	102
Warren County					
28149008	Memphis	MnF2	32-22	6.0	90
28149031	Memphis	MnF2	68-26	6.0	90
28149035	Memphis	MnF2	75-13	6.0	90
28149046	Memphis	MnF2	66	6.0	90
28149048	Memphis	MnF2	81	6.0	90
Washington County					
28151048	Tunica	Ta	38-36	5.0	100
28151060	Sharkey	Sb	11-11	5.0	85

TABLE 45 (Continued)

Plot ID	Soil Type	Soil #	Map Index -Section	Pasture (A.U.M.)	Site Index
Webster County					
28155044	Smithdale-Ora	SoE	26-9	7.0	80
Yalobusha County					
28161006	Maben-Smidale	MaE	32-2	*	83
28161015	Collins	CN	10-11	9.0	90
28161031	Smithdale-Providence	StF	8-11	*	84
Yazoo County					
28163012	Morganfield	Mo	56-7	12.0	100
28163046	Memphis-Natchez	MnE	42-22	5.5	90
28163063	Memphis-Natchez	MnE	73-21	5.5	90
28163073	Sharkey & Forestdale	Sf	32-8	8.0	100
28163074	Sharkey	Sc	51-5	8.0	90

TABLE 46

MISSISSIPPI PLOT CHANGES BY COUNTY, 1967 TO 1977

County	Number of Plots	County	Number of Plots
Adams	4	Leflore	1
Alcorn	6	Lincoln	3
Amite	3	Lowndes	3
Attala	3	Madison	5
Benton	3	Marion	3
Bolivar	4	Marshall	10
Calhoun	3	Monroe	4
Carroll	9	Montgomery	4
Chickasaw	4	Neshoba	3
Choctaw	4	Newton	9
Claiborne	1	Noxubee	9
Clarke	3	Oktibbeha	8
Clay	6	Panola	7
Coahoma	0	Pearl River	10
Copiah	5	Perry	1
Covington	6	Pike	6
DeSoto	6	Pontotoc	5
Forrest	4	Prentiss	5
Franklin	3	Quitman	5
George	4	Rankin	13
Greene	4	Scott	4
Grenada	3	Sharkey	4
Hancock	8	Simpson	4
Harrison	2	Smith	5
Hinds	9	Stone	2
Holmes	6	Sunflower	0
Humphreys	5	Tallahatchie	2
Issaquena	8	Tate	9
Itawamba	2	Tippah	1
Jackson	5	Tishomingo	4
Jasper	6	Tunica	6
Jefferson	2	Union	4
Jefferson Davis	6	Walthall	4
Jones	6	Warren	6
Kemper	12	Washington	5
Lafayette	6	Wayne	4
Lamar	3	Webster	6
Lauderdale	2	Wilkinson	5
Lawrence	1	Winston	7
Leake	6	Yalobusha	5
Lee	5	Yazoo	9
Total			**398**

TABLE 47

MISSISSIPPI SAMPLE PLOTS PER COUNTY, 1977

County	Number of Plots	County	Number of Plots
Adams	38	Leflore	6
Alcorn	35	Lincoln	40
Amite	59	Lowndes	26
Attala	58	Madison	35
Benton	27	Marion	39
Bolivar	20	Marshall	38
Calhoun	31	Monroe	43
Carroll	41	Montgomery	31
Chickasaw	21	Neshoba	46
Choctaw	38	Newton	52
Claiborne	35	Noxubee	42
Clarke	62	Oktibbeha	38
Clay	21	Panola	25
Coahoma	14	Pearl River	62
Copiah	71	Perry	59
Covington	28	Pike	23
DeSoto	17	Pontotoc	26
Forrest	47	Prentiss	29
Franklin	50	Quitman	8
George	38	Rankin	62
Greene	81	Scott	46
Grenada	22	Sharkey	18
Hancock	39	Simpson	40
Harrison	56	Smith	51
Hinds	35	Stone	55
Holmes	41	Sunflower	3
Humphreys	11	Tallahatchie	18
Issaquena	23	Tate	15
Itawamba	48	Tippah	31
Jackson	61	Tishomingo	33
Jasper	57	Tunica	16
Jefferson	44	Union	13
Jefferson Davis	29	Walthall	19
Jones	49	Warren	45
Kemper	67	Washington	12
Lafayette	51	Wayne	76
Lamar	42	Webster	28
Lauderdale	64	Wilkinson	49
Lawrence	35	Winston	47
Leake	49	Yalobusha	42
Lee	15	Yazoo	42
Total			**3099**

TABLE 48

MISSISSIPPI PLOT CHANGES BY CATEGORY, 1967 TO 1977

Category	Number of Plots
Reserved Timberland to Timberland	0
Cropland to Timberland	0
Pasture to Timberland	0
Idle Farmland to Timberland	19
Other Farmland to Timberland	71
Urban & Other Uses to Timberland	16
Marsh to Timberland	0
Census Water to Timberland	0
Noncensus Water to Timberland	0
Timberland to Reserved Timberland	0
Timberland to Cropland	80
Timberland to Pasture	137
Timberland to Idle Farmland	17
Timberland to Other Farmland	7
Timberland to Urban & Other Uses	39
Timberland to Marsh	2
Timberland to Census Water	1
Timberland to NonCensus Water	9
Total	**398**

TABLE 49

MISSISSIPPI LAND CLEARINGS BY CATEGORY, 1967 TO 1977

County	Timber to Cropland	Timber to Pasture	Timber to Idle Farmland	Timber to Other Farmland	Timber to Urban & Other Use	Timber to Marsh	Timber to Census Water	Timber to Noncensus Water
Adams	(11,000)	(5,500)	0	0	(5,500)	0	0	0
Alcorn	(3,600)	(14,400)	0	0	(3,600)	0	0	0
Amite	0	(10,814)	0	0	0	0	0	0
Attala	(10,800)	(5,400)	0	0	0	0	0	0
Benton	(6,185)	(6,185)	0	0	0	0	0	0
Bolivar	(4,200)	0	0	0	0	0	0	(4,200)
Calhoun	(6,800)	(13,600)	0	0	0	0	0	0
Carroll	(10,624)	(31,872)	0	(5,314)	0	0	0	0
Chickasaw	(18,885)	(6,296)	0	0	0	0	0	0
Choctaw	0	(15,300)	0	0	0	0	0	0
Claiborne	0	0	0	0	0	0	0	0
Clarke	0	(11,200)	0	0	(5,600)	0	0	0
Clay	0	(22,400)	0	0	0	0	0	(5,600)
Coahoma	0	0	0	0	0	0	0	0
Copiah	0	(10,000)	(5,001)	0	0	0	0	0
Covington	(5,400)	(21,600)	0	0	0	0	0	(5,400)
DeSoto	(4,738)	(4,738)	0	(4,738)	(9,476)	0	0	0
Forrest	0	(4,700)	0	0	(9,400)	0	0	0
Franklin	(6,000)	(6,000)	0	0	(6,000)	0	0	0
George	(12,714)	(6,356)	0	0	0	0	0	0
Greene	(5,100)	(10,200)	0	0	0	0	0	0
Grenada	0	0	0	0	0	0	0	0
Hancock	0	(32,000)	(6,400)	0	0	0	0	0
Harrison	0	(5,600)	(5,600)	0	0	0	0	0
Hinds	(17,898)	(23,861)	(11,932)	0	0	0	0	0
Holmes	(11,010)	(5,505)	0	0	0	0	0	0
Humphreys	(27,200)	0	0	0	0	0	0	0
Issaquena	(19,200)	0	0	0	(6,400)	0	0	(6,400)
Itawamba	(4,800)	0	0	0	0	0	0	0
Jackson	0	(12,600)	0	0	(6,300)	0	0	(6,300)
Jasper	0	(11,200)	(11,200)	0	0	0	0	0

TABLE 49 (Continued)

County	Timber to Cropland	Timber to Pasture	Timber to Idle Farmland	Timber to Other Farmland	Timber to Urban & Other Use	Timber to Marsh	Timber to Census Water	Timber to Noncensus Water
Jefferson	(5,567)	0	0	0	0	0	0	0
Jefferson Davis	0	(10,000)	0	0	(10,000)	0	0	0
Jones	0	(18,600)	0	0	(12,400)	0	0	0
Kemper	(5,700)	(17,100)	(5,700)	0	(5,700)	0	0	0
Lafayette	0	(5,400)	0	(5,400)	(5,400)	0	0	0
Lamar	(5,600)	(11,200)	0	0	0	0	0	0
Lauderdale	0	(5,400)	0	0	0	0	(5,400)	0
Lawrence	0	0	0	0	0	0	0	0
Leake	0	(15,000)	0	0	0	0	0	0
Lee	0	(17,400)	0	0	0	0	0	0
LeFlore	(11,000)	0	0	0	0	0	0	0
Lincoln	0	(6,400)	0	0	(6,400)	0	0	0
Lowndes	0	(15,000)	0	0	0	0	0	0
Madison	(5,400)	(16,200)	0	0	(5,400)	0	0	0
Marion	0	(14,625)	0	0	0	0	0	0
Marshall	0	(24,964)	(6,241)	0	(6,241)	0	0	0
Monroe	(6,200)	0	(6,200)	0	0	0	0	0
Montgomery	(5,323)	(10,647)	0	0	0	0	0	0
Neshoba	0	(13,200)	0	0	0	0	0	0
Newton	0	(20,000)	0	(5,000)	(5,000)	0	0	0
Noxubee	(33,000)	(11,000)	0	0	0	0	0	0
Oktibbeha	0	0	0	(4,800)	0	0	0	0
Panola	(7,005)	(7,005)	0	0	(7,005)	0	0	0
Pearl River	(6,200)	(24,800)	0	0	(6,200)	0	0	0
Perry	0	(5,885)	0	0	0	0	0	0
Pike	(6,900)	(20,700)	0	0	0	0	0	0
Pontotoc	(22,076)	(5,520)	0	0	0	0	0	0
Prentiss	0	(14,292)	0	0	(4,765)	0	0	0
Quitman	(24,400)	0	0	0	0	0	0	0
Rankin	(5,800)	(17,400)	(23,200)	0	(23,200)	0	0	0
Scott	(5,800)	(11,600)	0	0	0	0	0	0
Sharkey	(21,200)	0	0	0	0	0	0	0
Simpson	(6,200)	(12,400)	0	0	(6,200)	0	0	0
Smith	0	(5,800)	0	0	(5,800)	0	0	0

TABLE 49 (Continued)

County	Timber to Cropland	Timber to Pasture	Timber to Idle Farmland	Timber to Other Farmland	Timber to Urban & Other Use	Timber to Marsh	Timber to Census Water	Timber to Noncensus Water
Stone	0	0	0	0	(4,500)	0	0	0
Sunflower	0	0	0	0	0	0	0	0
Tallahatchie	(7,084)	0	(7,083)	0	0	0	0	0
Tate	0	(28,800)	0	0	0	0	0	0
Tippah	0	(5,197)	0	0	0	0	0	0
Tishomingo	(5,700)	(5,700)	(5,700)	0	(5,700)	0	0	0
Tunica	(22,500)	0	0	0	0	0	0	(4,500)
Union	0	(19,800)	0	0	0	0	0	(19,800)
Walthall	0	(13,600)	(6,800)	0	0	0	0	0
Warren	(8,986)	0	0	0	(8,986)	0	0	0
Washington	(11,800)	0	0	(5,900)	(5,900)	0	0	(5,900)
Wayne	0	(5,900)	0	(5,900)	0	0	0	0
Webster	(5,900)	(29,500)	0	0	0	0	0	0
Wilkinson	(14,000)	0	0	0	0	(7,000)	0	0
Winston	0	(5,900)	0	0	(11,800)	0	0	0
Yalobusha	(4,500)	(4,500)	0	0	(4,500)	(4,500)	0	0
Yazoo	(12,020)	(12,020)	0	0	(12,020)	0	0	0
Total	(462,015)	(785,782)	(101,057)	(37,052)	(215,393)	(11,500)	(5,400)	(58,100)
Total Loss	**(1,676,299)**							
% of Loss	27.6	46.9	6.0	2.2	12.8	0.7	0.3	3.5

TABLE 50

MISSISSIPPI REVERSION TO TIMBERLAND BY CATEGORY, 1967 TO 1977

County	Reserved Timber to Timber	Cropland to Timber	Pasture to Timber	Idle Farmland to Timber	Other Farmland to Timber	Urban & Other Use to Timber	Census Water to Timber	Noncensus Water to Timber	Inaccessible
Adams	0	0	0	0	0	0	0	0	0
Alcorn	0	0	0	0	0	0	0	0	0
Amite	0	0	0	0	5,600	0	0	0	0
Attala	0	0	0	0	0	0	0	0	0
Benton	0	0	0	0	6,346	0	0	0	0
Bolivar	0	0	0	0	10,800	0	0	0	0
Calhoun	0	0	0	0	0	0	0	0	0
Carroll	0	0	0	0	0	0	0	0	0
Chickasaw	0	0	0	0	0	0	0	0	0
Choctaw	0	0	0	0	0	5,600	0	0	0
Claiborne	0	0	0	0	6,600	0	0	0	0
Clarke	0	0	0	0	0	0	0	0	0
Clay	0	0	0	0	5,600	0	0	0	0
Coahoma	0	0	0	0	0	0	0	0	0
Copiah	0	0	0	0	4,928	4,928	0	0	0
Covington	0	0	0	0	0	0	0	0	0
DeSoto	0	0	0	0	6,086	0	0	0	0
Forrest	0	0	0	4,900	0	0	0	0	0
Franklin	0	0	0	0	0	0	0	0	0
George	0	0	0	0	5,900	0	0	0	0
Greene	0	0	0	0	0	5,200	0	0	0
Grenada	0	0	0	0	12,364	6,181	0	0	0
Hancock	0	0	0	0	5,700	5,700	0	0	0
Harrison	0	0	0	0	0	0	0	0	0
Hinds	0	0	0	0	0	0	0	0	0
Holmes	0	0	0	0	5,800	5,800	0	0	0
Humphreys	0	0	0	0	0	6,417	0	0	0
Issaquena	0	0	0	0	20,100	0	0	0	0
Itawamba	0	0	0	0	5,300	0	0	0	0
Jackson	0	0	0	0	0	5,500	0	0	0

TABLE 50 (Continued)

County	Reserved Timber to Timber	Cropland to Timber	Pasture to Timber	Idle Farmland to Timber	Other Farmland to Timber	Urban & Other Use to Timber	Census Water to Timber	Noncensus Water to Timber	Inaccessible
Jasper	0	0	0	0	11,400	0	0	0	0
Jefferson	0	0	0	0	6,000	0	0	0	0
Jefferson Davis	0	0	0	10,800	0	0	0	0	0
Jones	0	0	0	6,100	0	0	0	0	0
Kemper	0	0	0	0	33,600	0	0	0	0
Lafayette	0	0	0	0	14,700	0	0	0	0
Lamar	0	0	0	0	0	0	0	0	0
Lauderdale	0	0	0	0	0	0	0	0	0
Lawrence	0	0	0	5,700	0	0	0	0	0
Leake	0	0	0	5,200	5,200	5,200	0	0	0
Lee	0	0	0	7,300	7,300	0	0	0	0
LeFlore	0	0	0	0	0	0	0	0	0
Lincoln	0	0	0	0	7,000	0	0	0	0
Lowndes	0	0	0	0	0	0	0	0	0
Madison	0	0	0	0	0	0	0	0	0
Marion	0	0	0	0	0	0	0	0	0
Marshall	0	0	0	6,434	19,302	0	0	0	0
Monroe	0	0	0	6,200	6,200	0	0	0	0
Montgomery	0	0	0	6,000	0	0	0	0	0
Neshoba	0	0	0	0	0	0	0	0	0
Newton	0	0	0	10,600	5,300	0	0	0	0
Noxubee	0	0	0	0	5,400	0	0	0	0
Oktibbeha	0	0	0	4,300	21,500	4,300	0	0	0
Panola	0	0	0	0	30,055	0	0	0	0
Pearl River	0	0	0	6,300	12,600	6,300	0	0	0
Perry	0	0	0	0	0	0	0	0	0
Pike	0	0	0	7,200	7,200	0	0	0	0
Pontotoc	0	0	0	0	0	0	0	0	0
Prentiss	0	0	0	0	5,300	0	0	0	0
Quitman	0	0	0	0	8,800	0	0	0	0
Rankin	0	0	0	0	6,200	0	0	0	0
Scott	0	0	0	0	5,700	0	0	0	0
Sharkey	0	0	0	0	0	0	0	0	0

TABLE 50 (Continued)

County	Reserved Timber to Timber	Cropland to Timber	Pasture to Timber	Idle Farmland to Timber	Other Farmland to Timber	Urban & Other Use to Timber	Census Water to Timber	Noncensus Water to Timber	Inaccessible
Simpson	0	0	0	0	0	0	0	0	0
Smith	0	0	0	5,900	5,900	5,900	0	0	0
Stone	0	0	0	0	0	4,500	0	0	0
Sunflower	0	0	0	0	0	0	0	0	0
Tallahatchie	0	0	0	0	0	0	0	0	0
Tate	0	0	0	0	40,050	0	0	0	0
Tippah	0	0	0	0	0	0	0	0	0
Tishomingo	0	0	0	0	0	0	0	0	0
Tunica	0	0	0	0	0	0	0	0	0
Union	0	0	0	0	0	0	0	0	0
Walthall	0	0	0	6,800	0	0	0	0	0
Warren	0	0	0	0	5,662	5,662	0	0	0
Washington	0	0	0	0	0	0	0	0	0
Wayne	0	0	0	5,900	0	5,900	0	0	0
Webster	0	0	0	0	0	0	0	0	0
Wilkinson	0	0	0	0	14,400	0	0	0	0
Winston	0	0	0	6,200	18,600	0	0	0	0
Yalobusha	0	0	0	4,516	0	0	0	0	0
Yazoo	0	0	0	0	13,000	6,500	0	0	0
Total	0	0	0	105,550	428,293	89,588	0	0	0
Total Gain	**623,431**								
% of Gain	0.0	0.0	0.0	16.9	68.7	14.4	0.0	0.0	0.0

TABLE 51

MISSISSIPPI NET LAND USE CHANGE BY COUNTY, 1967 TO 1977

County	Total (acres)	Net Change
Adams	(22,000)	-0.105
Alcorn	(21,600)	-0.171
Amite	(5,214)	-0.016
Attala	(16,200)	-0.052
Benton	(6,024)	-0.036
Bolivar	2,400	0.032
Calhoun	(20,400)	-0.097
Carroll	(47,810)	-0.220
Chickasaw	(25,181)	-0.190
Choctaw	(9,700)	-0.051
Claiborne	6,600	0.030
Clarke	(16,800)	-0.048
Clay	(22,400)	-0.200
Coahoma	0	0.000
Copiah	(5,145)	-0.015
Covington	(32,400)	-0.214
DeSoto	(17,604)	-0.232
Forrest	(9,200)	-0.043
Franklin	(18,000)	-0.060
George	(13,170)	-0.056
Greene	(10,100)	-0.025
Grenada	18,545	0.115
Hancock	(27,000)	-0.114
Harrison	(11,200)	-0.039
Hinds	(53,691)	-0.257
Holmes	(4,915)	-0.023
Humphreys	(20,783)	-0.306
Issaquena	(11,900)	-0.093
Itawamba	500	0.002
Jackson	(19,700)	-0.052
Jasper	(11,000)	-0.036
Jefferson	433	0.002
Jefferson Davis	(9,200)	-0.068
Jones	(24,900)	-0.084
Kemper	(600)	-0.002
Lafayette	(1,500)	-0.006
Lamar	(16,800)	-0.071
Lauderdale	(10,800)	-0.031
Lawrence	5,700	0.030
Leake	600	0.003
Lee	(2,800)	-0.037
LeFlore	(11,000)	-0.167
Lincoln	(5,800)	-0.023
Lowndes	(15,000)	-0.115
Madison	(27,000)	-0.143
Marion	(14,625)	-0.068
Marshall	(11,710)	-0.055
Monroe	0	0.000
Montgomery	(9,970)	-0.062
Neshoba	(13,200)	-0.065
Newton	(14,100)	-0.058
Noxubee	(38,600)	-0.171
Oktibbeha	25,300	0.170

TABLE 51 (Continued)

County	Total (acres)	Net Change
Panola	9,040	0.061
Pearl River	(12,000)	-0.033
Perry	(5,885)	-0.017
Pike	(13,200)	-0.091
Pontotoc	(27,596)	-0.192
Prentiss	(13,757)	-0.103
Quitman	(15,600)	-0.365
Rankin	(63,400)	-0.179
Scott	(11,700)	-0.045
Sharkey	(21,200)	-0.222
Simpson	(24,800)	-0.100
Smith	6,100	0.022
Stone	0	0.000
Sunflower	0	0.000
Tallahatchie	(14,167)	-0.111
Tate	11,250	0.130
Tippah	(5,197)	-0.032
Tishomingo	(22,800)	-0.121
Tunica	(27,000)	-0.375
Union	(39,600)	-0.308
Walthall	(13,600)	-0.111
Warren	(6,648)	-0.034
Washington	(29,500)	-0.417
Wayne	0	0.000
Webster	(35,400)	-0.214
Wilkinson	(6,600)	-0.020
Winston	7,100	0.028
Yalobusha	(13,484)	-0.073
Yazoo	(16,560)	-0.071
Total	**(1,052,868)**	**-0.062**

TABLE 52

MISSISSIPPI PLOT CHANGES BY COUNTY, 1977 TO 1987

County	Number of Plots	County	Number of Plots
Adams	7	Leflore	2
Alcorn	3	Lincoln	10
Amite	4	Lowndes	4
Attala	8	Madison	7
Benton	5	Marion	2
Bolivar	2	Marshall	6
Calhoun	4	Monroe	4
Carroll	8	Montgomery	5
Chickasaw	4	Neshoba	7
Choctaw	3	Newton	8
Claiborne	2	Noxubee	3
Clarke	4	Oktibbeha	5
Clay	2	Panola	2
Coahoma	0	Pearl River	3
Copiah	4	Perry	4
Covington	1	Pike	5
DeSoto	2	Pontotoc	5
Forrest	1	Prentiss	4
Franklin	4	Quitman	0
George	9	Rankin	8
Greene	1	Scott	3
Grenada	5	Sharkey	0
Hancock	2	Simpson	2
Harrison	4	Smith	3
Hinds	10	Stone	1
Holmes	2	Sunflower	1
Humphreys	0	Tallahatchie	0
Issaquena	4	Tate	5
Itawamba	3	Tippah	7
Jackson	4	Tishomingo	4
Jasper	7	Tunica	1
Jefferson	5	Union	4
Jefferson Davis	3	Walthall	7
Jones	3	Warren	5
Kemper	6	Washington	2
Lafayette	1	Wayne	5
Lamar	4	Webster	1
Lauderdale	6	Wilkinson	3
Lawrence	1	Winston	1
Leake	4	Yalobusha	3
Lee	2	Yazoo	5
Total			**311**

TABLE 53

MISSISSIPPI SAMPLE PLOTS PER COUNTY, 1987

County	Number of Plots	County	Number of Plots
Adams	40	Leflore	6
Alcorn	30	Lincoln	46
Amite	61	Lowndes	24
Attala	62	Madison	37
Benton	29	Marion	38
Bolivar	18	Marshall	37
Calhoun	31	Monroe	43
Carroll	37	Montgomery	31
Chickasaw	20	Neshoba	49
Choctaw	38	Newton	50
Claiborne	37	Noxubee	37
Clarke	60	Oktibbeha	41
Clay	17	Panola	22
Coahoma	14	Pearl River	57
Copiah	72	Perry	60
Covington	23	Pike	23
DeSoto	17	Pontotoc	25
Forrest	44	Prentiss	29
Franklin	50	Quitman	4
George	40	Rankin	54
Greene	77	Scott	44
Grenada	24	Sharkey	14
Hancock	35	Simpson	37
Harrison	54	Smith	52
Hinds	35	Stone	54
Holmes	40	Sunflower	3
Humphreys	7	Tallahatchie	16
Issaquena	20	Tate	14
Itawamba	47	Tippah	37
Jackson	60	Tishomingo	31
Jasper	60	Tunica	9
Jefferson	44	Union	13
Jefferson Davis	27	Walthall	22
Jones	46	Warren	41
Kemper	66	Washington	9
Lafayette	48	Wayne	76
Lamar	41	Webster	23
Lauderdale	64	Wilkinson	46
Lawrence	35	Winston	45
Leake	50	Yalobusha	39
Lee	12	Yazoo	37
Total			**3003**

TABLE 54

MISSISSIPPI PLOT CHANGES BY CATEGORY, 1977 TO 1987

Category	Number of Plots
Reserved Timberland to Timberland	12
Cropland to Timberland	29
Pasture to Timberland	108
Idle Farmland to Timberland	30
Other Farmland to Timberland	1
Urban & Other Uses to Timberland	19
Census Water to Timberland	1
Noncensus Water to Timberland	5
Inaccessible to Timberland	2
Timberland to Reserved Timberland	2
Timberland to Cropland	23
Timberland to Pasture	29
Timberland to Idle Farmland	3
Timberland to Other Farmland	2
Timberland to Urban & Other Uses	39
Timberland to Census Water	4
Timberland to NonCensus Water	2
Total	**311**

TABLE 55

MISSISSIPPI LAND CLEARINGS BY CATEGORY, 1977 TO 1987

County	Timber to Reserved Timber	Timber to Cropland	Timber to Pasture	Timber to Idle Farmland	Timber to Other Farmland	Timber to Urban & Other Use	Timber Census Water	Timber to Noncensus Water
Adams	0	0	0	0	0	(5,600)	0	0
Alcorn	0	0	0	0	0	(4,900)	0	0
Amite	0	0	0	0	0	0	0	0
Attala	0	(5,900)	0	0	0	0	0	0
Benton	0	0	0	0	0	(6,346)	0	0
Bolivar	0	(10,800)	0	0	0	0	0	0
Calhoun	0	0	(7,000)	0	0	0	0	0
Carroll	0	(6,400)	(12,800)	0	0	0	0	0
Chickasaw	0	(7,200)	0	0	0	0	0	0
Choctaw	0	0	0	0	0	0	0	0
Claiborne	0	0	0	0	0	0	0	0
Clarke	0	(5,800)	(11,600)	0	0	0	0	0
Clay	0	0	0	0	0	0	(5,600)	0
Coahoma	0	0	0	0	0	0	0	0
Copiah	0	0	0	0	0	0	0	0
Covington	0	0	0	0	0	0	0	0
DeSoto	0	(6,083)	0	0	0	0	0	0
Forrest	0	0	0	0	0	0	0	0
Franklin	0	0	0	0	0	(6,200)	0	0
George	0	(5,900)	0	0	0	(11,800)	0	(5,900)
Greene	0	0	0	0	0	(5,200)	0	0
Grenada	0	(6,182)	0	0	0	(6,182)	(6,182)	0
Hancock	0	0	0	0	0	0	0	0
Harrison	0	0	(5,841)	0	(5,841)	(11,682)	0	0
Hinds	0	0	(7,300)	0	0	0	0	0
Holmes	0	0	0	0	0	0	0	0
Humphreys	0	0	0	0	0	0	0	0
Issaquena	0	(13,400)	0	0	0	0	0	0
Itawamba	0	0	(5,300)	0	0	(5,300)	0	0
Jackson	0	0	0	0	0	(5,500)	0	0
Jasper	0	0	0	0	0	0	0	0

TABLE 55 (Continued)

County	Timber to Reserved Timber	Timber to Cropland	Timber to Pasture	Timber to Idle Farmland	Timber to Other Farmland	Timber to Urban & Other Use	Timber Census Water	Timber to Noncensus Water
Jefferson	0	0	(18,000)	0	0	0	0	0
Jefferson Davis	0	0	0	0	0	(5,400)	0	0
Jones	0	0	(6,100)	0	0	0	0	0
Kemper	0	0	(5,600)	0	0	0	0	0
Lafayette	0	0	(4,900)	0	0	0	0	0
Lamar	0	0	(6,363)	(6,363)	0	0	0	0
Lauderdale	0	0	0	0	0	(21,200)	0	0
Lawrence	0	0	(5,700)	0	0	0	0	0
Leake	0	0	0	0	0	0	0	0
Lee	0	0	0	0	0	(14,600)	0	0
LeFlore	0	(13,800)	0	0	0	0	0	0
Lincoln	0	0	(7,000)	0	0	(7,000)	0	0
Lowndes	0	0	(5,600)	0	0	0	(5,600)	(5,600)
Madison	0	0	0	0	0	0	0	0
Marion	0	0	0	0	0	0	0	0
Marshall	0	0	(6,434)	0	0	0	0	0
Monroe	0	0	(6,200)	0	0	0	(6,200)	0
Montgomery	0	0	(12,000)	0	0	0	0	0
Neshoba	0	(5,000)	0	0	0	0	0	0
Newton	0	(10,600)	(10,600)	0	0	0	0	0
Noxubee	0	0	0	0	0	0	0	0
Oktibbeha	(4,300)	0	0	0	0	0	0	0
Panola	0	0	(15,028)	0	0	0	0	0
Pearl River	0	0	0	0	0	(12,600)	0	0
Perry	(6,200)	0	0	0	0	(6,200)	0	0
Pike	0	0	0	0	0	(7,200)	0	0
Pontotoc	0	0	0	0	0	(6,000)	0	0
Prentiss	0	0	0	0	0	0	0	0
Quitman	0	0	0	0	0	0	0	0
Rankin	0	0	(6,200)	0	0	(18,600)	0	0
Scott	0	0	0	0	0	(11,400)	0	0
Sharkey	0	0	0	0	0	0	0	0
Simpson	0	0	0	0	0	(6,400)	0	0
Smith	0	0	0	0	0	0	0	0

TABLE 55 (Continued)

County	Timber to Reserved Timber	Timber to Cropland	Timber to Pasture	Timber to Idle Farmland	Timber to Other Farmland	Timber to Urban & Other Use	Timber Census Water	Timber to Noncensus Water
Stone	0	0	0	0	0	(4,500)	0	0
Sunflower	0	(10,100)	0	0	0	0	0	0
Tallahatchie	0	0	0	0	0	0	0	0
Tate	0	(6,675)	0	(6,675)	0	0	0	0
Tippah	0	0	0	0	0	0	0	0
Tishomingo	0	0	0	0	0	(13,200)	0	0
Tunica	0	(5,200)	0	0	0	0	0	0
Union	0	0	0	0	0	0	0	0
Walthall	0	0	0	0	0	(6,800)	0	0
Warren	0	(16,986)	0	(5,662)	0	0	0	0
Washington	0	0	0	0	0	0	0	0
Wayne	0	0	(11,800)	0	0	(5,900)	0	0
Webster	0	0	0	0	0	0	0	0
Wilkinson	0	0	0	0	0	0	0	0
Winston	0	0	0	0	0	0	0	0
Yalobusha	0	0	0	0	0	(9,032)	0	0
Yazoo	0	(13,000)	0	0	(6,500)	(6,500)	0	0
Total	(10,500)	(149,026)	(177,366)	(18,700)	(12,341)	(231,242)	(23,582)	(11,500)
Total Loss	**(634,257)**							
% of Loss	1.7	23.5	28.0	2.9	1.9	36.5	3.7	1.8

TABLE 56

MISSISSIPPI REVERSIONS TO TIMBERLAND BY CATEGORY, 1977 TO 1987

County	Reserved Timber to Timber	Cropland to Timber	Pasture to Timber	Idle Farmland to Timber	Other Farmland to Timber	Urban & Other Use to Timber	Census Water to Timber	Noncensus Water to Timber	Incessible to Timber
Adams	0	0	4,987	9,974	0	9,974	4,987	0	0
Alcorn	0	4,783	4,783	0	0	0	0	0	0
Amite	0	0	10,878	5,439	0	0	0	5,440	0
Attala	5,833	0	23,332	5,833	0	0	0	5,832	0
Benton	0	0	12,664	6,332	0	0	0	6,332	0
Bolivar	0	0	0	0	0	0	0	0	0
Calhoun	0	0	21,250	0	0	0	0	0	0
Carroll	0	0	32,910	0	0	0	0	0	0
Chickasaw	0	7,274	14,548	0	0	0	0	0	0
Choctaw	0	0	10,810	0	5,405	0	0	0	0
Claiborne	5,835	0	0	0	0	5,835	0	0	0
Clarke	0	0	0	6,253	0	0	0	0	0
Clay	0	0	0	0	0	0	0	7,113	0
Coahoma	0	0	0	0	0	0	0	0	0
Copiah	0	0	9,672	4,836	0	4,836	0	0	0
Covington	0	0	6,983	0	0	0	0	0	0
DeSoto	0	7,800	0	0	0	0	0	0	0
Forrest	0	0	4,961	0	0	0	0	0	0
Franklin	0	0	18,948	0	0	0	0	0	0
George	30,915	0	0	0	0	0	0	0	0
Greene	0	0	0	0	0	0	0	0	0
Grenada	0	6,700	6,700	0	0	0	0	0	0
Hancock	0	0	0	5,726	0	5,726	0	0	0
Harrison	0	0	0	0	0	0	0	0	0
Hinds	6,082	6,082	24,328	12,164	0	6,082	0	0	0
Holmes	0	0	12,796	0	0	0	0	0	0
Humphreys	0	0	0	0	0	0	0	0	0
Issaquena	0	0	0	0	0	5,467	0	5,467	0
Itawamba	0	0	0	0	0	5,187	0	0	0
Jackson	17,130	0	0	0	0	0	0	0	0

TABLE 56 (Continued)

County	Reserved Timber to Timber	Cropland to Timber	Pasture to Timber	Idle Farmland to Timber	Other Farmland to Timber	Urban & Other Use to Timber	Census Water to Timber	Noncensus Water to Timber	Incessible to Timber
Jasper	0	0	29,450	11,780	0	0	0	0	0
Jefferson	0	11,692	0	0	0	0	0	0	0
Jefferson Davis	0	0	11,008	0	0	0	0	0	0
Jones	0	0	6,567	6,567	0	0	0	0	0
Kemper	0	0	22,232	5,558	0	0	0	0	0
Lafayette	0	0	0	0	0	0	0	0	0
Lamar	0	5,710	0	5,710	0	0	0	0	0
Lauderdale	0	0	0	5,788	0	5,788	0	0	0
Lawrence	0	0	0	0	0	0	0	0	0
Leake	0	5,144	15,432	0	0	0	0	0	0
Lee	0	0	0	0	0	0	0	0	0
LeFlore	0	8,266	0	0	0	0	0	0	0
Lincoln	0	5,895	23,580	17,685	0	0	0	0	0
Lowndes	0	0	6,562	0	0	0	0	0	0
Madison	0	0	24,580	9,832	0	0	0	0	0
Marion	0	0	11,126	0	0	0	0	0	0
Marshall	0	13,506	6,753	13,506	0	0	0	0	0
Monroe	0	11,736	0	0	0	0	0	0	0
Montgomery	0	0	16,209	0	0	0	0	0	0
Neshoba	0	0	24,615	4,923	0	0	0	0	0
Newton	0	0	21,836	0	0	0	0	0	0
Noxubee	0	11,498	5,749	0	0	0	0	0	0
Oktibbeha	0	8,230	8,230	0	0	0	0	0	0
Panola	0	0	0	0	0	0	0	0	0
Pearl River	0	0	0	6,184	0	0	0	0	0
Perry	6,060	0	6,060	0	0	0	0	0	0
Pike	0	7,009	7,009	0	0	14,018	0	0	0
Pontotoc	0	6,096	18,288	0	0	0	0	0	0
Prentiss	0	0	15,714	0	0	0	0	0	5,238
Quitman	0	0	0	0	0	0	0	0	0
Rankin	0	0	6,134	6,134	0	12,268	0	0	0
Scott	0	0	6,152	0	0	0	0	0	0
Sharkey	0	0	0	0	0	0	0	0	0

TABLE 56 (Continued)

County	Reserved Timber to Timber	Cropland to Timber	Pasture to Timber	Idle Farmland to Timber	Other Farmland to Timber	Urban & Other Use to Timber	Census Water to Timber	Noncensus Water to Timber	Incessible to Timber
Simpson	0	0	6,672	0	0	0	0	0	0
Smith	0	0	10,954	5,477	0	0	0	0	0
Stone	0	0	0	0	0	0	0	0	0
Sunflower	0	0	0	0	0	0	0	0	0
Tallahatchie	0	0	0	0	0	0	0	0	0
Tate	0	0	13,784	0	0	6,892	0	0	0
Tippah	0	10,600	15,900	0	0	10,600	0	0	0
Tishomingo	0	0	0	6,679	0	6,679	0	0	0
Tunica	0	0	0	0	0	0	0	0	0
Union	0	18,570	18,570	0	0	0	0	0	0
Walthall	0	12,314	12,314	12,314	0	0	0	0	0
Warren	0	0	5,738	0	0	0	0	0	0
Washington	0	0	0	0	0	8,963	0	0	8,963
Wayne	0	0	11,736	0	0	0	0	0	0
Webster	0	8,074	0	0	0	0	0	0	0
Wilkinson	0	7,046	14,092	0	0	0	0	0	0
Winston	0	0	0	0	0	6,122	0	0	0
Yalobusha	0	0	5,422	0	0	0	0	0	0
Yazoo	0	0	7,321	0	0	0	0	0	0
Total	71,855	184,025	636,339	174,694	5,405	114,437	4,987	30,184	14,201
Total Gain	**1,236,127**								
% of Gain	5.8	14.9	51.5	14.1	0.4	9.3	0.4	2.4	1.1

TABLE 57

MISSISSIPPI NET LAND USE CHANGE BY COUNTY, 1977 TO 1987

County	Total (acres)	Net Change
Adams	24,322	0.128
Alcorn	4,666	0.033
Amite	21,757	0.068
Attala	34,930	0.108
Benton	18,982	0.115
Bolivar	(10,800)	-0.111
Calhoun	14,250	0.073
Carroll	13,710	0.067
Chickasaw	14,622	0.119
Choctaw	16,215	0.083
Claiborne	11,670	0.051
Clarke	(11,147)	-0.033
Clay	1,513	0.017
Coahoma	0	0.000
Copiah	19,344	0.057
Covington	6,983	0.050
DeSoto	1,717	0.024
Forrest	4,961	0.023
Franklin	12,748	0.044
George	7,315	0.035
Greene	(5,200)	-0.013
Grenada	(5,146)	-0.038
Hancock	11,452	0.061
Harrison	(23,364)	-0.082
Hinds	47,438	0.250
Holmes	12,796	0.058
Humphreys	0	0.000
Issaquena	(2,466)	-0.020
Itawamba	(5,413)	-0.022
Jackson	11,630	0.037
Jasper	41,230	0.136
Jefferson	(6,308)	-0.024
Jefferson Davis	5,608	0.042
Jones	7,034	0.026
Kemper	22,190	0.065
Lafayette	(4,900)	-0.021
Lamar	(1,306)	-0.005
Lauderdale	(9,624)	-0.029
Lawrence	(5,700)	-0.029
Leake	20,576	0.086
Lee	(14,600)	-0.167
LeFlore	(5,534)	-0.080
Lincoln	33,160	0.125
Lowndes	(10,238)	-0.079
Madison	34,412	0.174
Marion	11,126	0.057
Marshall	27,331	0.133
Monroe	(664)	-0.003
Montgomery	4,209	0.025
Neshoba	24,538	0.114
Newton	636	0.003
Noxubee	17,247	0.094
Oktibbeha	12,160	0.076

TABLE 57 (Continued)

County	Total (acres)	Net Change
Panola	(15,028)	-0.091
Pearl River	(6,416)	-0.018
Perry	(280)	-0.001
Pike	20,836	0.152
Pontotoc	18,384	0.146
Prentiss	20,952	0.158
Quitman	0	0.000
Rankin	(264)	-0.001
Scott	(5,248)	-0.021
Sharkey	0	0.000
Simpson	272	0.001
Smith	16,431	0.057
Stone	(4,500)	-0.019
Sunflower	(10,100)	-0.333
Tallahatchie	0	0.000
Tate	7,326	0.091
Tippah	37,100	0.233
Tishomingo	158	0.001
Tunica	(5,200)	-0.100
Union	37,140	0.338
Walthall	30,142	0.277
Warren	(16,910)	-0.071
Washington	17,926	0.272
Wayne	(5,964)	-0.014
Webster	8,074	0.050
Wilkinson	21,138	0.064
Winston	6,122	0.022
Yalobusha	(3,610)	-0.021
Yazoo	(18,679)	-0.080
State Total	**601,870**	**0.036**

TABLE 58

MISSISSIPPI AVERAGE PRODUCTIVITY MEASURES BY CATEGORY

Categories	Site Index	Pasture (A.U.M.)	Cotton (Lb.)	Corn (Bu.)	Soybeans (Bu.)	Oats (Bu.)
Reserved Timberland to Timberland	86.51					
Cropland to Timberland	86.55		645.73	73.71	28.50	58.25
Improved Pasture to Timberland	84.14	6.73				
Idle Farmland to Timberland	88.43	8.37	641.19	79.67	32.51	62.57
Other Farmland to Timberland	80.00	0.00	0.00	0.00	0.00	0.00
Urban & Other Uses to Timberland	89.10					
Census Water to Timberland	100.00					
Noncensus Water to Timberland	89.10					
Inaccessible to Timberland	91.15					
Weighted Average for Reversions	**86.00**	**7.14**	**643.50**	**76.90**	**30.29**	**60.06**
Timberland to Reserved Timberland	83.00					
Timberland to Cropland	88.50	0.00	557.90	68.62	31.81	51.43
Timberland to Improved Pasture	85.39	7.06				
Timberland to Idle Farmland	95.35	7.92	735.26	74.17	28.65	60.48
Timberland to Other Farmland	95.27	8.00	500.00	0.00	35.00	45.00
Timberland to Urban & Other Uses	86.49					
Timberland to Census Water	83.68					
Timberland to Noncensus Water	65.65					
Weighted Average for Land Clearings	**86.59**	**7.17**	**574.63**	**68.57**	**31.51**	**52.20**

TABLE 59

STUDENT'S *t'* FOR AVERAGE PRODUCTIVITY MEASUREMENTS BY LAND USE AND BY LAND USE CATEGORY FOR MISSISSIPPI

Student's *t'* for Site Indices Measurements

Categories	Student's t'	df
Reserved Timberland-Timberland	0.00750	N/A
Cropland-Timberland	-0.00964	45.42
Improved Pasture-Timberland	-0.00447	28.43
Idle Farmland-Timberland	-0.01662	2.30
Other Farmland-Timberland	-0.03123	N/A
Urban & Other Uses-Timberland	0.01253	29.77
Census Water-Timberland	0.05451	N/A
Noncensus Water-Timberland	0.00935	1.03
Reversions vs Land Clearings	-0.00620	160.17

Student's *t'* for Pasture Measurements

Categories	Student's t'	df
Improved Pasture-Timberland	-0.00766	35.76
Idle Farmland-Timberland	0.00353	2.28
Reversions vs Land Clearings	-0.00079	41.14

Student's *t'* for Cotton Measurements

Categories	Student's t'	df
Cropland-Timberland	0.00511	21.16
Idle Farmland-Timberland	-0.02949	15.02
Reversions vs Land Clearings	0.00818	24.06

Student's *t'* for Corn Measurements

Categories	Student's t'	df
Cropland-Timberland	-0.00321	25.61
Idle Farmland-Timberland	0.00414	2.00
Reversions vs Land Clearings	0.00704	16.00

Student's *t'* for Soybean Measurements

Categories	Student's t'	df
Cropland-Timberland	-0.01201	28.84
Idle Farmland-Timberland	0.00780	2.14
Reversions vs Land Clearings	-0.00622	35.49

TABLE 59 (CONTINUED)

Student's *t'* for Oats Measurements

Categories	Student's t'	df
Cropland-Timberland	0.01024	17.98
Idle Farmland-Timberland	0.00127	1.08
Reversions vs Land Clearings	0.01538	21.89

*N/A -- Insufficient number of observations to calculate degrees of freedom.

TABLE 60

NET PERIODIC VOLUME OF POTENTIAL TIMBER GROWTH FOR MISSISSIPPI LAND USE CHANGES

Loblolly Pine	Site Index	Average[1] Yearly Growth per acre (Cu.ft.)	Net Land Use Change (Acres)	Net Periodic[2] Volume of Potential Growth (Cu.ft.)
Reserved Timberland to Timberland	86.51	131	71,855	9,413,005
Cropland to Timberland	86.55	131	184,025	24,107,275
Improved Pasture to Timberland	84.14	110	636,339	69,997,290
Idle Farmland to Timberland	88.43	131	174,694	22,884,914
Other Farmland to Timberland	80.00	110	5,405	594,550
Urban & Other Uses to Timberland	89.10	131	114,437	14,991,247
Census Water to Timberland	100.00	154	4,987	767,998
Noncensus Water to Timberland	89.10	131	30,184	3,954,104
Inaccessible to Timberland	91.15	131	14,201	1,860,331
Total Reversions			1,236,127	148,570,714
Timberland to Reserved Timberland	83.00	110	10,500	1,155,000
Timberland to Cropland	88.50	131	149,026	19,522,406
Timberland to Improved Pasture	85.39	110	177,366	19,510,260
Timberland to Idle Farmland	95.35	131	18,700	2,449,700
Timberland to Other Farmland	95.27	131	12,341	1,616,671
Timberland to Urban & Other Uses	86.49	131	231,242	30,292,702
Timberland to Census Water	83.68	110	23,582	2,594,020
Timberland to Noncensus Water	65.65	93	11,500	1,069,500
Total Land Clearings			634,257	78,210,259

[1]Based on mean annual increment at full stocking.
From USDA Miscellaneous Publication No. 50, Table 40, pg.60

TABLE 61

NET CHANGE IN VOLUME OF POTENTIAL TIMBER GROWTH FOR MISSISSIPPI, BY CATEGORY

	Volume of[1] Potential Growth (Cu.ft.)	Potential[2] Volume per year	Potential[3] Volume per acre
Reserved Timberland to Timberland	8,258,005	825,801	135
Cropland to Timberland	4,584,869	458,487	131
Improved Pasture to Timberland	50,487,030	5,048,703	110
Idle Farmland to Timberland	20,435,214	2,043,521	131
Other Farmland to Timberland	(1,022,121)	(102,212)	147
Urban & Other Uses to Timberland	(15,301,455)	(1,530,146)	131
Census Water to Timberland	(1,826,022)	(182,602)	98
Noncensus Water to Timberland	2,884,604	288,460	154
Inaccessible to Timberland	1,860,331	186,033	131
Net Gain in Potential Growth	70,360,455	7,036,046	117

[1]Net periodic volume of potential growth (cu. ft.) of total reversions minus net periodic volume of potential growth (cu. ft.) of land clearings

[2]Volume of potential growth (cu. ft.) divided by years in time period (10 years).

TABLE 62

VOLUME DISTRIBUTION OF ROUNDWOOD TIMBER PRODUCTS FOR MISSISSIPPI IN 1984 (PERCENT OF ALL TIMBER PRODUCTS)

Category	Percent Softwoods	Percent Hardwoods	Percent of All Products
Sawlogs	74	26	42
Veneer Logs	91	9	7
Pulpwood	59	41	41
Fuelwood	3	97	7
Other Industrial Products	88	12	3

TABLE 63

TOTAL VOLUME OF POTENTIAL TIMBER GROWTH PER YEAR BY TIMBER PRODUCTS CATEGORY FOR MISSISSIPPI

	Cubic Feet of Wood		
Category	Potential Growth Softwoods	Potential Growth Hardwoods	Potential Growth All Products
Sawlogs	2,186,803	758,336	2,955,139
Veneer Logs	448,196	44,327	492,523
Pulpwood	1,702,020	1,182,759	2,884,779
Fuelwood	14,776	477,748	492,523
Other Industrial Products	185,752	25,330	211,081
Total	4,537,546	2,4902,500	7,036,046

TABLE 64

MISSISSIPPI TIMBER PRICE PER CUBIC FOOT

Category	Price Softwoods	Price Hardwoods	Price All Products
Sawlogs	$0.98	$0.75	$0.92
Veneer Logs	$1.02	$1.02	$1.02
Pulpwood	$0.36	$0.35	$0.36
Fuelwood	$0.66	$0.66	$0.66
Other Industrial Products	$0.71	$0.71	$0.71

TABLE 65

TOTAL VALUE OF POTENTIAL TIMBER GROWTH PER YEAR BY TIMBER PRODUCTS CATEGORY FOR MISSISSIPPI

Category	Value Softwoods	Value Hardwoods	Value All Products
Sawlogs	$2,135,710	$577,789	$2,713,498
Veneer Logs	$458,668	$45,214	$503,882
Pulpwood	$618,977	$410,085	$1,029,061
Fuelwood	$9,812	$317,254	$327,066
Other Industrial Products	$131,936	$17,991	$149,927
Total	$3,355,102	$1,368,333	$4,723,435

TABLE 66

TOTAL EFFECTS ON MISSISSIPPI ECONOMY

	Industry	Final Demand (MM$)	TIO (MM$)	Employment Number of Jobs)
1	LVSTK & LVSTK PRODUCTS	.0054	.0211	.27
10	OTHER AG. PRODUCTS	.0004	.0098	.12
24	FORESTRY PRODUCTS	.0001	.0030	.04
26	AG, FORESTRY, AND FISHERY	.0004	.0090	.29
28	MINING, MINERALS & GRAVEL	.0037	.0216	.11
48	NEW CONSTRUCTION	.0000	.0000	.00
55	MAINTENANCE AND REPAIR	.0000	.1003	2.53
58	FOOD & KINDRED PRODUCTS	.0546	.0648	.37
104	TOBACCO	.0000	.0000	.00
108	TEXTILE MANUFACTURING	.0506	.0570	1.03
133	SAWLOGS	2.9215	4.0309	47.80
137	VENEER LOGS	.6720	.7568	8.39
141	OTH INDUSTRIAL PRODUCTS	.1545	.1968	1.81
147	WOOD PRODUCTS, N.E.C	-.0518	-.0474	-.87
148	HOUSEHOLD FURNITURE	.0123	.0135	.22
154	OTHER FURNITURE	-.0004	-.0001	-.00
161	PULP GOODS	1.0443	1.0847	5.84
174	PRINTING & PUBLISHING	.0028	.0058	.08
187	CHEMICALS	.0206	.1038	.39
210	PETROLEUM REFINING	.0605	.2228	.20
215	RUBBER PRODUCTS	.0006	.0035	.03
221	LEATHER PRODUCTS	.0022	.0024	.05
230	GLASS PRODUCTS	.0012	.0036	.04
232	STONE & CLAY PRODUCTS	.0000	.0003	.00
254	PRIMARY METAL MAN.	.0001	.0111	.06
273	OTHER METAL PRODUCTS	-.0016	.0202	.19
307	ENGINES	.0002	.0016	.01
309	FARM EQUIPMENT	.0003	.0029	.02
311	CONST. & MAINT. EQUIP.	.0000	.0001	.00
314	HANDLING EQUIPMENT	-.0001	.0096	.09
320	METAL WORKING EQUIP.	.0005	.0165	.20
327	SPECIAL IND. EQUIP.	.0000	.0110	.11
332	GENERAL IND. EQUIP.	.0000	.0001	.00
341	OFFICE EQUIPMENT	.0000	.0000	.00
346	SERVICE IND. EQUIP.	.0006	.0013	.01
350	MISCELLANEOUS EQUIP.	.0000	.0002	.00
355	ELECTRIC IND. EQUIP.	.0002	.0033	.04
361	HOUSEHOLD APPLIANCES	.0008	.0019	.02
368	ELECTRIC LIGHTING	.0001	.0005	.00
370	RADIO & TV EQUIP.	.0041	.0053	.05
377	ELECTRONIC COMPONENTS	.0004	.0014	.02
379	MISC. ELECTRONIC EQUIP.	.0010	.0027	.03
384	MOTOR VEHICLE EQUIP.	.0053	.0248	.20
389	AIRCRAFT	.0001	.0003	.00
392	OTHER TRANSPORTATION	.0004	.0009	.01
400	SCIENTIFIC EQUIP.	.0048	.0100	.11
415	MISCELLANEOUS MANF.	.0017	.0026	.03
433	TRANSPORTATION	.0261	.1540	2.42
441	RADIO & TV	.0433	.2097	1.03
444	UTILITIES	.0178	.0929	.31
447	WHOLESALE AND RETAIL	.3957	.5610	21.18
456	FINANCE & INSURANCE	.1163	.1817	3.09
461	REAL ESTATE	.2831	.3139	1.43

TABLE 66 (Continued)

	Industry	Final Demand (MM$)	TIO (MM$)	Employment Number of Jobs)
463	PERSONAL SERVICES	.0346	.0424	2.02
469	OTHER SERVICES	.0000	.0000	.00
477	BUSINESS SERVICES	.0362	.0706	1.11
483	AMUSEMENT	.0108	.0160	.81
490	HEALTH, ED. & SOCIAL SERV	.3009	.3455	8.03
510	GOVERNMENT	.0357	.1265	4.66
524	REST OF THE WORLD IND.	.0000	.0000	.00
525	HOUSEHOLD INDUSTRY-LOW	.0043	.0043	.88
528	INVENTORY VALUATION ADJ.	.0000	.0000	.00
	TOTAL	6.2794	8.9111	116.94

Change in Population = 254.

TABLE 67

DIRECT EFFECTS ON MISSISSIPPI ECONOMY

	Industry	Final Demand (MM$)	TIO (MM$)	Employment (Number of Jobs)
1	LVSTK & LVSTK PRODUCTS	.0000	.0000	.00
10	OTHER AG. PRODUCTS	-.0014	-.0014	-.02
24	FORESTRY PRODUCTS	.0000	.0000	.00
26	AG, FORESTRY, AND FISHERY	.0000	.0000	.00
28	MINING, MINERALS & GRAVEL	.0000	.0000	.00
48	NEW CONSTRUCTION	.0000	.0000	.00
55	MAINTENANCE AND REPAIR	.0000	.0000	.00
58	FOOD & KINDRED PRODUCTS	.0000	.0000	.00
104	TOBACCO	.0000	.0000	.00
108	TEXTILE MANUFACTURING	-.0000	-.0000	.00
133	SAWLOGS	2.9214	2.9214	34.65
137	VENEER LOGS	.6720	.6720	7.45
141	OTH INDUSTRIAL PRODUCTS	.1545	.1545	1.42
147	WOOD PRODUCTS, N.E.C	-.0532	-.0532	-.98
148	HOUSEHOLD FURNITURE	.0008	.0008	.01
154	OTHER FURNITURE	-.0005	-.0005	-.01
161	PULP PRODUCTS	1.0429	1.0429	5.61
174	PRINTING & PUBLISHING	.0000	.0000	.00
187	CHEMICALS	-.0000	-.0000	.00
210	PETROLEUM REFINING	.0000	.0000	.00
215	RUBBER PRODUCTS	.0004	.0004	.00
221	LEATHER PRODUCTS	.0000	.0000	.00
230	GLASS PRODUCTS	-.0001	-.0001	.00
232	STONE & CLAY PRODUCTS	-.0001	-.0001	.00
254	PRIMARY METAL MAN.	.0000	.0000	.00
273	OTHER METAL PRODUCTS	-.0025	-.0025	-.02
307	ENGINES	.0000	.0000	.00
309	FARM EQUIPMENT	.0000	.0000	.00
311	CONST. & MAINT. EQUIP.	.0000	.0000	.00
314	HANDLING EQUIPMENT	-.0001	-.0001	-.00
320	METAL WORKING EQUIP.	.0000	.0000	.00
327	SPECIAL IND. EQUIP.	.0000	.0000	.00
332	GENERAL IND. EQUIP.	.0000	.0000	.00
341	OFFICE EQUIPMENT	.0000	.0000	.00
346	SERVICE IND. EQUIP.	.0000	.0000	.00
350	MISCELLANEOUS EQUIP.	.0000	.0000	.00
355	ELECTRIC IND. EQUIP.	.0000	.0000	.00
361	HOUSEHOLD APPLIANCES	.0000	.0000	.00
368	ELECTRIC LIGHTING	-.0000	-.0000	.00
370	RADIO & TV EQUIP.	.0000	.0000	.00
377	ELECTRONIC COMPONENTS	.0000	.0000	.00
379	MISC. ELECTRONIC EQUIP.	.0000	.0000	.00
384	MOTOR VEHICLE EQUIP.	.0003	.0003	.00
389	AIRCRAFT	.0000	.0000	.00
392	OTHER TRANSPORTATION	.0002	.0002	.00
400	SCIENTIFIC EQUIP.	-.0000	-.0000	.00
415	MISCELLANEOUS MANF.	-.0001	-.0001	-.00
433	TRANSPORTATION	.0000	.0000	.00
441	RADIO & TV	.0000	.0000	.00
444	UTILITIES	.0000	.0000	.00
447	WHOLESALE AND RETAIL	.0000	.0000	.00

TABLE 67 (Continued)

Industry	Final Demand (MM$)	TIO (MM$)	Employment (Number of Jobs)
456 FINANCE & INSURANCE	.0000	.0000	.00
461 REAL ESTATE	.0000	.0000	.00
463 PERSONAL SERVICES	.0000	.0000	.00
469 OTHER SERVICES	.0000	.0000	.00
477 BUSINESS SERVICES	.0000	.0000	.00
483 AMUSEMENT	.0000	.0000	.00
490 HEALTH, ED. & SOCIAL SERV	.0000	.0000	.00
510 GOVERNMENT	.0000	.0000	.00
524 REST OF THE WORLD IND.	.0000	.0000	.00
525 HOUSEHOLD INDUSTRY-LOW	.0000	.0000	.00
528 INVENTORY VALUATION ADJ.	.0000	.0000	.00
Total	4.7346	4.7346	48.13
Change in Population =	105.		

TABLE 68

INDIRECT EFFECTS ON MISSISSIPPI ECONOMY

	Industry	Final Demand (MM$)	TIO (MM$)	Employment (Number of Jobs)
1	LVSTK & LVSTK PRODUCTS	.0000	.0015	.02
10	OTHER AG. PRODUCTS	.0000	.0042	.05
24	FORESTRY PRODUCTS	.0000	.0025	.04
26	AG, FORESTRY, AND FISHERY	.0000	.0034	.11
28	MINING, MINERALS & GRAVEL	.0000	.0148	.07
48	NEW CONSTRUCTION	.0000	.0000	.00
55	MAINTENANCE AND REPAIR	.0000	.0712	1.80
58	FOOD & KINDRED PRODUCT	.0000	.0017	.01
104	TOBACCO	.0000	.0000	.00
108	TEXTILE MANUFACTURING	.0000	.0017	.03
133	SAWLOGS	.0000	1.1077	13.14
137	VENEER LOGS	.0000	.0845	.94
141	OTH INDUSTRIAL PRODUCTS	.0000	.0418	.39
147	WOOD PRODUCTS, N.E.C	.0000	.0043	.08
148	HOUSEHOLD FURNITURE	.0000	.0010	.02
154	OTHER FURNITURE	.0000	.0001	.00
161	PULP PRODUCTS	.0000	.0372	.20
174	PRINTING & PUBLISHING	.0000	.0014	.02
187	CHEMICALS	.0000	.0728	.27
210	PETROLEUM REFINING	.0000	.1492	.13
215	RUBBER PRODUCTS	.0000	.0026	.02
221	LEATHER PRODUCTS	.0000	.0002	.00
230	GLASS PRODUCTS	.0000	.0014	.02
232	STONE & CLAY PRODUCTS	.0000	.0002	.00
254	PRIMARY METAL MAN.	.0000	.0107	.05
273	OTHER METAL PRODUCTS	.0000	.0207	.20
307	ENGINES	.0000	.0011	.01
309	FARM EQUIPMENT	.0000	.0014	.01
311	CONST. & MAINT. EQUIP.	.0000	.0001	.00
314	HANDLING EQUIPMENT	.0000	.0096	.09
320	METAL WORKING EQUIP.	.0000	.0159	.19
327	SPECIAL IND. EQUIP.	.0000	.0104	.10
332	GENERAL IND. EQUIP.	.0000	.0001	.00
341	OFFICE EQUIPMENT	.0000	.0000	.00
346	SERVICE IND. EQUIP.	.0000	.0006	.00
350	MISCELLANEOUS EQUIP.	.0000	.0002	.00
355	ELECTRIC IND. EQUIP.	.0000	.0028	.03
361	HOUSEHOLD APPLIANCES	.0000	.0011	.01
368	ELECTRIC LIGHTING	.0000	.0003	.00
370	RADIO & TV EQUIP.	.0000	.0007	.01
377	ELECTRONIC COMPONENTS	.0000	.0004	.00
379	MISC. ELECTRONIC EQUIP.	.0000	.0012	.02
384	MOTOR VEHICLE EQUIP.	.0000	.0181	.14
389	AIRCRAFT	.0000	.0002	.00
392	OTHER TRANSPORTATION	.0000	.0005	.01
400	SCIENTIFIC EQUIP.	.0000	.0025	.03
415	MISCELLANEOUS MANF.	.0000	.0006	.01
433	TRANSPORTATION	.0000	.1197	1.88
441	RADIO & TV	.0000	.1512	.75
444	UTILITIES	.0000	.0680	.23
447	WHOLESALE AND RETAIL	.0000	.1517	5.73
456	FINANCE & INSURANCE	.0000	.0384	.65
461	REAL ESTATE	.0000	.0119	.05

TABLE 68 (Continued)

	Industry	Final Demand (MM$)	TIO (MM$)	Employment (Number of Jobs)
463	PERSONAL SERVICES	.0000	.0051	.24
469	OTHER SERVICES	.0000	.0000	.00
477	BUSINESS SERVICES	.0000	.0311	.49
483	AMUSEMENT	.0000	.0027	.14
490	HEALTH, ED. & SOCIAL SERV	.0000	.0409	.95
510	GOVERNMENT	.0000	.0757	2.79
524	REST OF THE WORLD IND.	.0000	.0000	.00
525	HOUSEHOLD INDUSTRY-LOW	.0000	.0000	.00
528	INVENTORY VALUATION ADJ.	.0000	.0000	.00
	TOTAL	.0000	2.4010	32.18
	Change in Population =	70.		

TABLE 69

INDUCED EFFECTS ON MISSISSIPPI ECONOMY

	Industry	Final Demand (MM$)	TIO (MM$)	Employment Number of Jobs)
1	LVSTK & LVSTK PRODUCTS	.0054	.0196	.25
10	OTHER AG. PRODUCTS	.0018	.0070	.09
24	FORESTRY PRODUCTS	.0001	.0006	.01
26	AG, FORESTRY, AND FISHERY	.0004	.0056	.18
28	MINING, MINERALS & GRAVEL	.0037	.0068	.03
48	NEW CONSTRUCTION	.0000	.0000	.00
55	MAINTENANCE AND REPAIR	.0000	.0290	.73
58	FOOD & KINDRED PRODUCT	.0546	.0630	.36
104	TOBACCO	.0000	.0000	.00
108	TEXTILE MANUFACTURING	.0507	.0553	1.00
133	SAWLOGS	.0001	.0018	.02
137	VENEER LOGS	.0000	.0003	.00
141	OTH INDUSTRIAL PRODUCTS	.0001	.0005	.00
147	WOOD PRODUCTS, N.E.C	.0014	.0016	.03
148	HOUSEHOLD FURNITURE	.0115	.0116	.19
154	OTHER FURNITURE	.0001	.0002	.00
161	PULP PRODUCTS	.0014	.0046	.02
174	PRINTING & PUBLISHING	.0028	.0044	.06
187	CHEMICALS	.0207	.0310	.12
210	PETROLEUM REFINING	.0605	.0736	.07
215	RUBBER PRODUCTS	.0002	.0005	.00
221	LEATHER PRODUCTS	.0022	.0023	.05
230	GLASS PRODUCTS	.0013	.0022	.03
232	STONE & CLAY PRODUCTS	.0001	.0001	.00
254	PRIMARY METAL MAN.	.0001	.0004	.00
273	OTHER METAL PRODUCTS	.0009	.0021	.02
307	ENGINES	.0002	.0005	.00
309	FARM EQUIPMENT	.0003	.0016	.01
311	CONST. & MAINT. EQUIP.	.0000	.0000	.00
314	HANDLING EQUIPMENT	.0000	.0002	.00
320	METAL WORKING EQUIP.	.0005	.0007	.01
327	SPECIAL IND. EQUIP.	.0000	.0006	.01
332	GENERAL IND. EQUIP.	.0000	.0000	.00
341	OFFICE EQUIPMENT	.0000	.0000	.00
346	SERVICE IND. EQUIP.	.0006	.0007	.01
350	MISCELLANEOUS EQUIP.	.0000	.0001	.00
355	ELECTRIC IND. EQUIP.	.0002	.0006	.01
361	HOUSEHOLD APPLIANCES	.0008	.0009	.01
368	ELECTRIC LIGHTING	.0001	.0002	.00
370	RADIO & TV EQUIP.	.0041	.0046	.04
377	ELECTRONIC COMPONENTS	.0004	.0010	.01
379	MISC. ELECTRONIC EQUIP.	.0010	.0015	.02
384	MOTOR VEHICLE EQUIP.	.0050	.0065	.05
389	AIRCRAFT	.0001	.0001	.00
392	OTHER TRANSPORTATION	.0001	.0002	.00
400	SCIENTIFIC EQUIP.	.0048	.0076	.08
415	MISCELLANEOUS MANF.	.0019	.0022	.02
433	TRANSPORTATION	.0261	.0343	.54
441	RADIO & TV	.0433	.0585	.29
444	UTILITIES	.0178	.0248	.08
447	WHOLESALE AND RETAIL	.3957	.4093	15.45
456	FINANCE & INSURANCE	.1163	.1433	2.44
461	REAL ESTATE	.2831	.3020	1.38

TABLE 69 (Continued)

	Industry	Final Demand (MM$)	TIO (MM$)	Employment Number of Jobs)
463	PERSONAL SERVICES	.0346	.0373	1.78
469	OTHER SERVICES	.0000	.0000	.00
477	BUSINESS SERVICES	.0362	.0395	.62
483	AMUSEMENT	.0108	.0132	.67
490	HEALTH, ED. & SOCIAL SERV	.3009	.3046	7.08
510	GOVERNMENT	.0357	.0507	1.87
524	REST OF THE WORLD IND.	.0000	.0000	.00
525	HOUSEHOLD INDUSTRY-LOW	.0043	.0043	.88
528	INVENTORY VALUATION ADJ.	.0000	.0000	.00
	Total	1.5449	1.7755	36.63

Change in Population = 80.

GLOSSARY[1]

Cropland: Land used for the production of adapted crops for harvest, including row crops, small grain crops, hay crops, nursery crops, orchard crops, and other specialty crops.

Census Water: Land include in the Bureau of Census inventories as a water area.

Corporate Lands: Lands owned by corporate organizations other than forest industry, such as utility companies, railroads, realty firms, hunting clubs, insurance companies, and banks.

Farmer-owned Lands: Lands owned by a person who operates a farm, either doing the work himself or directly supervising the work.

Forest Industries: Includes all or part of four industry groups classified under the Standard Industrial Classification System- lumber and wood products, furniture and fixtures, paper and allied products, and gum and wood chemical- used by the Bureau of the Census in the preparation of Censuses of Manufactures.

Forest Industry Lands: Lands owned or under lease for one rotation or longer by companies or individuals operation wood-using plants.

Forest Land: Land at least 16.7 percent stocked by trees of any size, including land that formerly had such tree cover and that will be naturally or artificially regenerated.

Idle Farmland: Land in a farm but not in production.

Improved Pasture: Land used for production of introduced or native forage plants for grazing.

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[1]Taken from various USDA Forest Service publications.

Noncensus Water: Land exclude in the Bureau of Census inventories as water areas but is a water area.

Nonindustrial Private Land: Lands privately owned by individuals other than forest industry, farmer owned or miscellaneous private corporations.

Other Farmland: Land in farm other than cropland, pastureland or idle farmland.

Productivity Class: A classification of forest land in terms of potential annual cubic-foot volume growth per acre at culmination of mean annual increment in fully stocked natural stands.

Reserved Timberland: Forest land that would otherwise be classified as timberland except that it is withdrawn from timber utilization by statue or administrative regulation.

Timberland: Forest land producing or capable of producing greater than 20 cubic feet per acre per year of industrial wood in natural stands.

Urban & Other Uses: Areas within the legal boundaries of cities and towns; suburban areas developed for residential, industrial, or recreational purposes; school yards; cemeteries; roads, railroads; airports; beaches, prover lines, and other rights-of-way; or other nonforest land not included in any other specified land use class.

Woodland: Forest land incapable of yielding industrial wood because of adverse site conditions.

VITA

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Master of Science

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